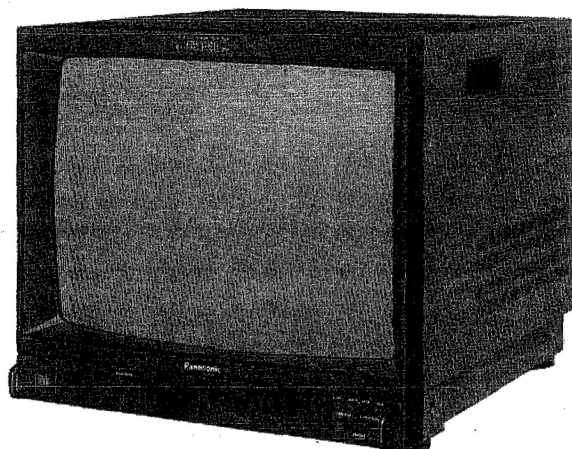


Service Manual

Colour Video Monitor
BT-D2020PY/PYG

H01M5 Chassis

PYG U.K. Only



The service technician is required to read and follow the "Safety Precautions" and "Important Safety Notice" in this Service Manual.

SPECIFICATIONS

System: 625 lines per picture, 50 fields per second, interlaced, PAL
CRT: Medium Resolution CRT 0.55 mm Dot pitch, 90-degree deflection, 29.1 mm in line gun
Effective Picture Size: 293 x 394 mm
[H×W] (11 ⁹/₁₆ x 15 ¹/₂ inches) picture measured diagonally

Input and Output

Video: LINE A/B; 1.0Vp-p composite video signal ± 2 dB positive, 75 Ω , with automatic loop-through output, BNC connector (4)
Sync: EXT.SYNC; 4.0Vp-p ± 6 dB negative, with automatic loop-through output, BNC connector (2)
Video Return Loss: More than 40 dB (0~5 MHz with 75 Ω termination)
Sync Return Loss: More than 46 dB (0~5 MHz with 75 Ω termination)
Component: (RGB & YP_BP_R switchable)
YP_BP_R: Y; 1.0Vp-p ± 2 dB, 75 Ω , with automatic loop-through output, BNC connector (2)

P_B: 0.7Vp-p ± 2 dB, 75 Ω , with automatic loop-through output, BNC connector (2)

P_R: 0.7Vp-p ± 2 dB, 75 Ω , with automatic loop-through output, BNC connector (2)

RGB: R; 0.7Vp-p ± 2 dB, 75 Ω , with automatic loop-through output, BNC connector (2)

G; 0.7Vp-p ± 2 dB, 75 Ω , with automatic loop-through output, BNC connector (2)

B; 0.7Vp-p ± 2 dB, 75 Ω , with automatic loop-through output, BNC connector (2)

S-Video Input: Y signal; 1Vp-p, C signal; 0.30Vp-p 75 Ω or HIGH impedance (Manual), MINI DIN 4 PIN type connector (1)

S-Video Output: Y signal; 1Vp-p, C signal; 0.30Vp-p 75 Ω or HIGH impedance (Manual), MINI DIN 4 PIN type connector (1)

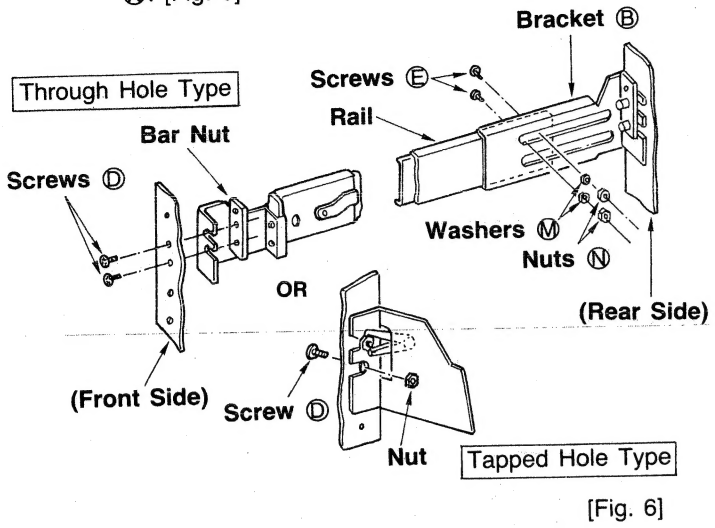
Tally Remote Connector:

REMOTE: 3 terminal type (DC 24.0V \pm 1.0V input or switch) connector (1)

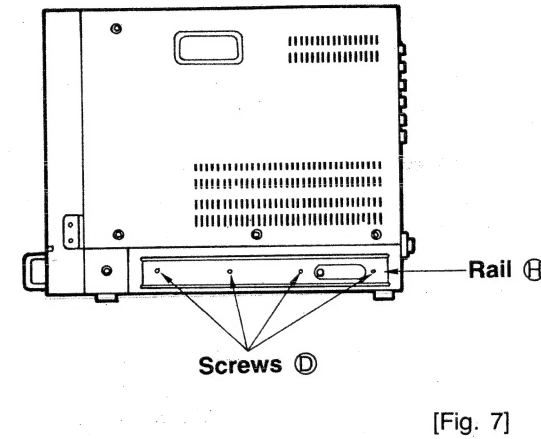
Panasonic

Matsushita Electric Industrial Co., Ltd.
Central P. O. Box 288, Osaka 530-91, Japan

STEP 6. Set the 2 screws ① and bar nut temporarily, and insert the brackets ② to the back of the rack. Fix the rail with 2 screws ③, 2 washers ④ and 2 nuts ⑤. [Fig. 6]



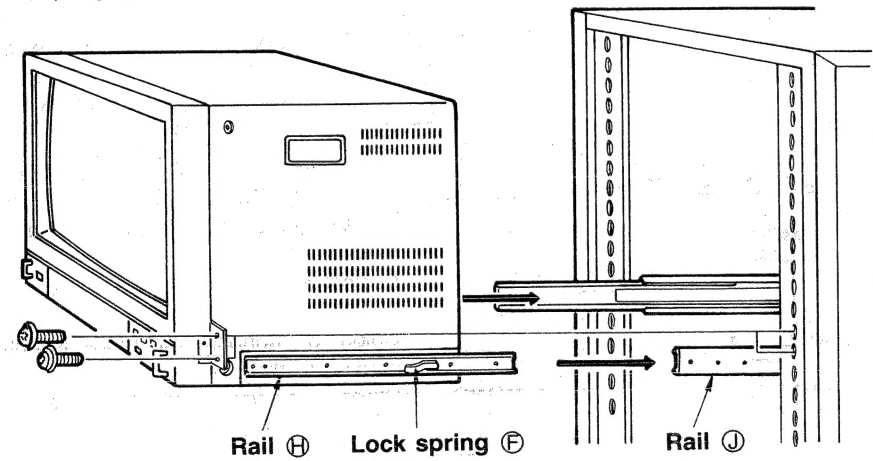
STEP 7. Mount and secure both the right and left rails ⑥ on the unit using 4 screws ⑦ each. [Fig. 7]



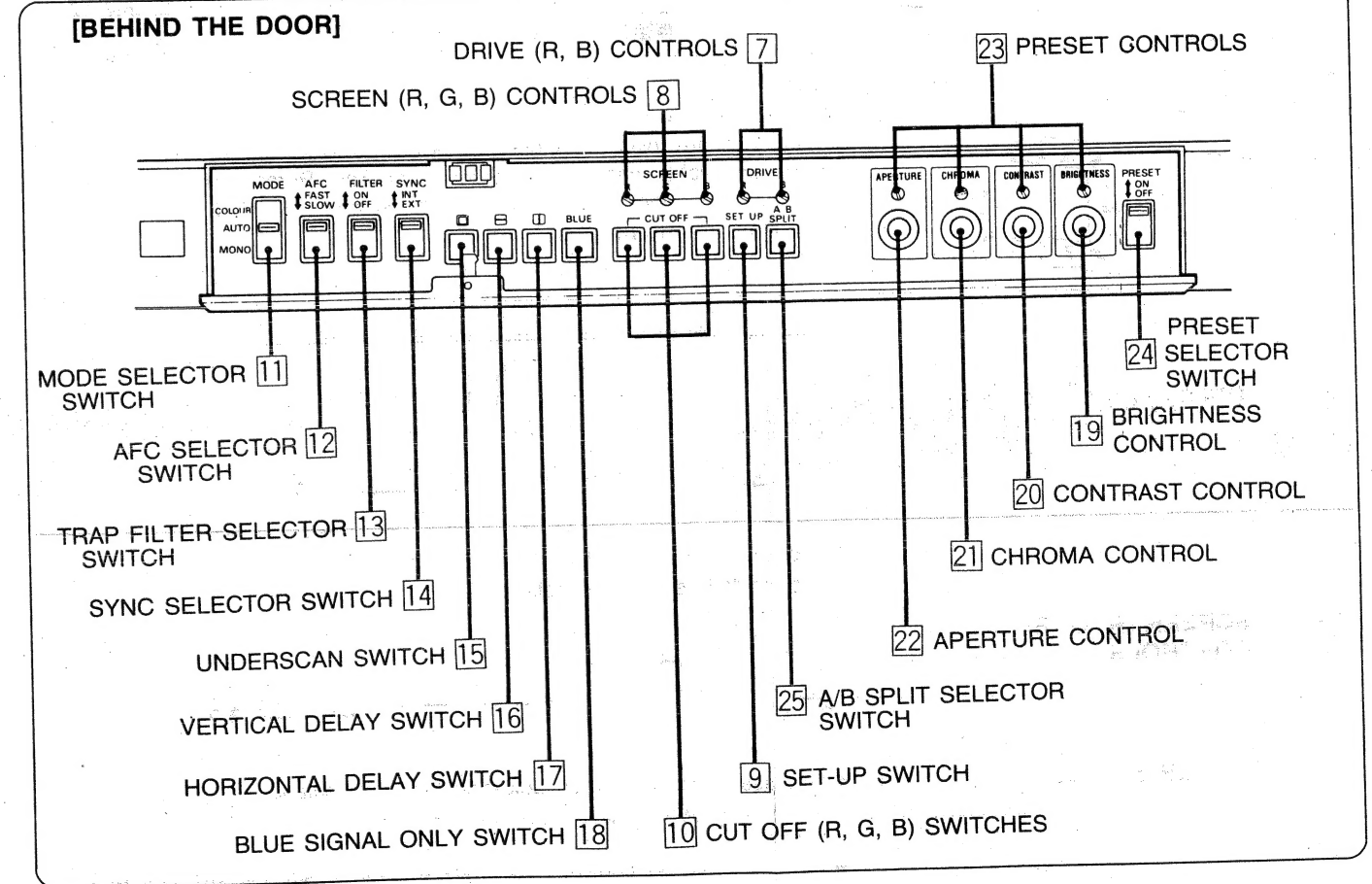
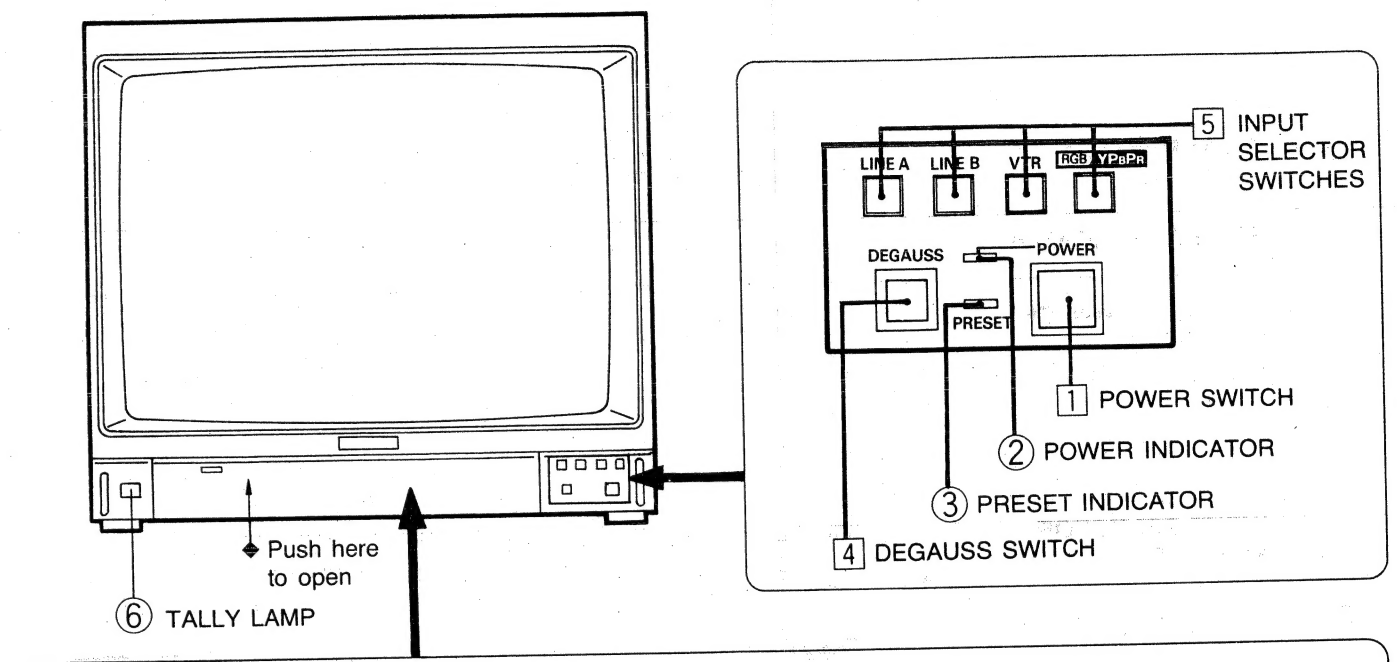
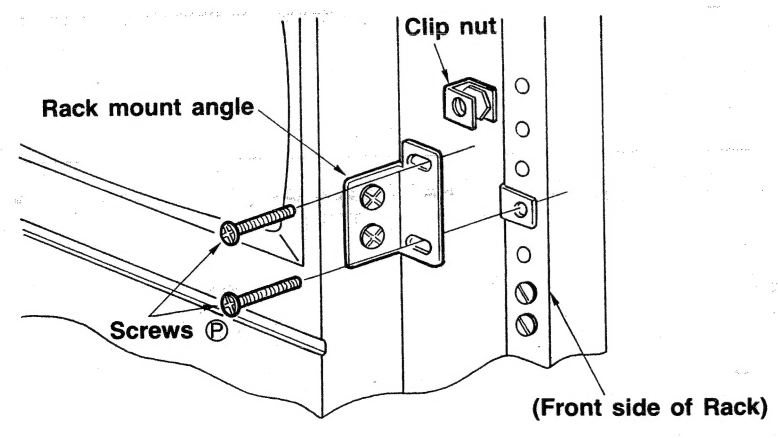
LOCATION AND OPERATIONS

FRONT CONTROLS AND INDICATIONS

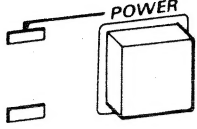
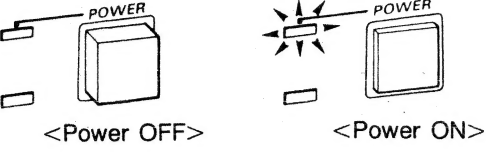

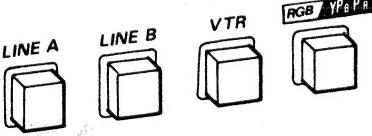
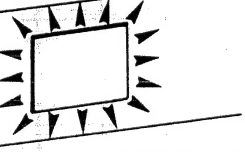
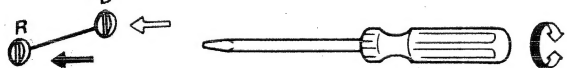
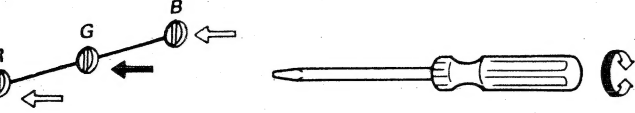

STEP 8. Pull out the both rails ⑧ until they are locked. While pressing the lock spring ⑨ of the rails ⑥, insert the rail ⑧. The rails ⑥ and ⑧ are locked, press again the lock spring ⑨ to store the unit into the rack. [Fig. 8]

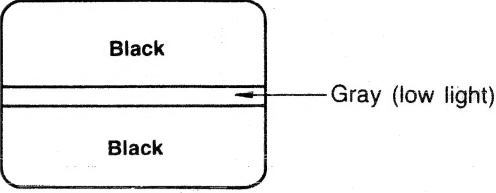
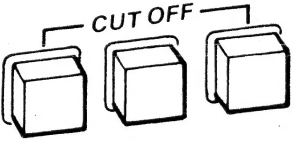
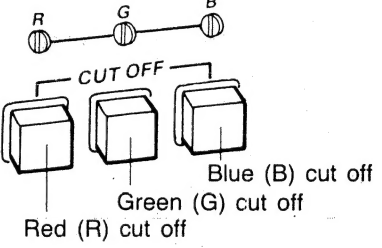
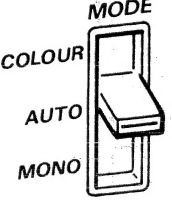











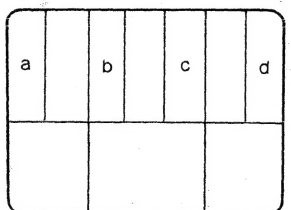
STEP 9. Tighten the both rack mount angles with 2 screws ⑩ to fix the set to the rack. [Fig. 9]

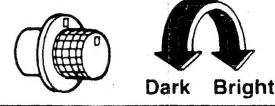
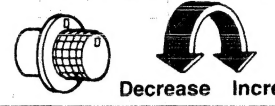
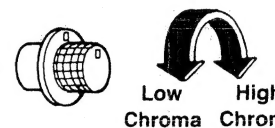
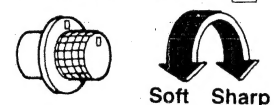
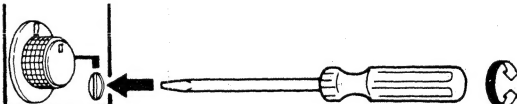


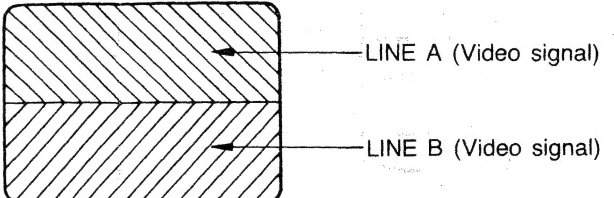


Note: □ Controls and Switches
○ Indicators

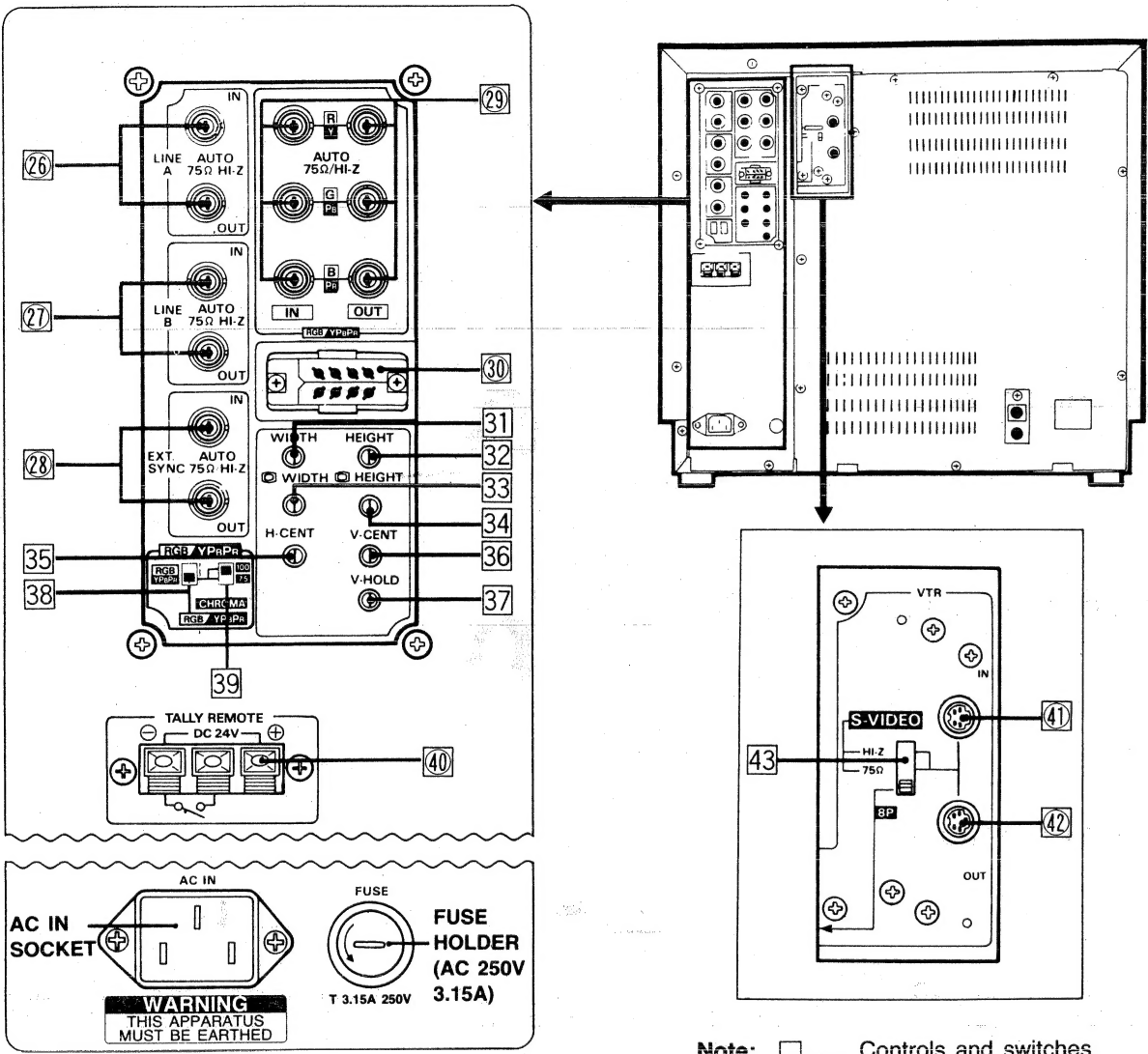
No.	NAME	PURPOSE
1	POWER SWITCH 	Push this switch to turn the unit "ON". 
2	POWER INDICATOR	<ul style="list-style-type: none"> Depress the power switch to turn "ON" the power. The power indicator will light (GREEN).
3	PRESET INDICATOR	This is the preset "ON"/"OFF" indicator.
4	DEGAUSS SWITCH 	To demagnetize the screen, press this switch more than 10 sec. with the power turned on. Wait for 5 minutes or more before activating degaussing again.
5	INPUT SELECTOR SWITCHES 	<p>LINE A : Received video signal from the LINE A terminal. LINE B : Received video signal from the LINE B terminal. VTR : Received video signal from the VTR terminal. (8P and S-Video) RGB/YPbPr : Received RGB or YPbPr signal from the RGB/YPbPr (R G B IN/OUT) terminals 29 .</p> <p>For detail, refer to page 13 and 14.</p>
6	TALLY LAMP 	<ul style="list-style-type: none"> This is used when more than one unit of this type is used, and indicates signal change over to monitor, or, which monitor is to be watched. The lamp lights when the terminals of the Tally Remote terminals 40 on the rear panel are short circuited or supplied 24V DC. <p>For detail, refer to page 15.</p>
7	DRIVE (R, B) CONTROLS	These controls are used to adjust individual colour gain. Used for bright level white balance. 
8	SCREEN (R, G, B) CONTROLS	These controls are used to adjust individual colour screen bias. Used for dark level white balance. 
9	SET-UP SWITCH 	<ul style="list-style-type: none"> Depress this switch when adjusting the white balance. A horizontal white bar of approximately 1/4~1/5 the screen height is displayed. Adjust Brightness control 20 dark enough to see the low light white balance.

No.	NAME	PURPOSE
		<ul style="list-style-type: none"> After adjusting the white balance, press this switch again.  <p>Note: Do not use this function except when white balance is readjusted.</p>
10	CUT OFF (R, G, B) SWITCHES 	<p>The R, G and B switches turn the red, green and blue beams respectively on and off. To turn off the beam, depress the switch. To turn it on, press the switch again.</p>  <ul style="list-style-type: none"> When 2 switches are "ON", it will be a single colour screen of either red/green/blue. When 1 switches is "ON", it will be a synthesized colour screen. [red+green=yellow, red+blue=magenta, green+blue=cyan] When all 3 switches are "ON", the screen will be black. Usually, leave all of them in the "OFF" position.
11	MODE SELECTOR SWITCH 	<ul style="list-style-type: none"> COLOUR: Used when receiving only colour signals out of input video signals. (Auto colour control and auto colour killer in "OFF" mode.) AUTO : Normal position. (Auto colour control and auto colour killer in "ON" mode.) Colour or monochrome mode is automatically selected according to the presence or absence of colour burst. MONO : Chroma channel is deactivated and the picture is displayed in monochrome mode.
12	AFC SELECTOR SWITCH 	<p>Selects the AFC time constant.</p> <ul style="list-style-type: none"> FAST : This mode is fast enough to correct for VTR jitter. Use the position to obtain a stable playback picture from a VTR. SLOW: This mode is slow enough to display the time base instability introduced by mechanical jitter, in the VTR playback signal.
13	TRAP FILTER (ON/OFF) SELECTOR SWITCH 	<ul style="list-style-type: none"> TRAP FILTER ON : This is the normal switch position. TRAP FILTER OFF: This position provides higher resolution than with the trap filter "ON". Use this position with Black/White signal, or monochrome mode on the Mode Selector switch 11 .

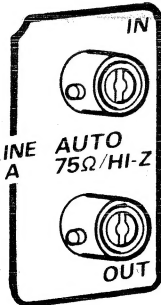
No.	NAME	PURPOSE
14	SYNC (INT/EXT) SELECTOR SWITCH 	INT: The monitor operates on the sync signal from the displayed composite video signal. EXT: The monitor operates on an external sync signal supplied from the Ext. Sync terminals 28 on the rear panel.
15	UNDERSCAN SWITCH 	Depress this switch for underscanning. The display size is reduced by approximately 5% so that four corners of the raster are visible.
16	VERTICAL DELAY SWITCH 	Depress this switch to observe the vertical sync signal. The picture is delayed vertically and the vertical sync signal is displayed near the center of the screen. Picture brightness is automatically increased for easy observation. • A pulse cross is displayed by depressing both the  and  switches.
17	HORIZONTAL DELAY SWITCH 	Depress this switch to observe the horizontal sync signal. The picture is delayed horizontal and the horizontal sync signal is displayed in the left size of the screen. Picture brightness is automatically increased for easy observation.
18	BLUE SIGNAL ONLY SWITCH 	Depress this switch to observe BLUE signal in Black and White. This makes it easier to adjust chrominance (using colour bar display) and increases visibility of video tape dropouts and playback noise.  (colour bar pattern) Note: When Chroma control 21 is turned, and (a)~(d) white level is adjusted to the same, it will be the standard colour.

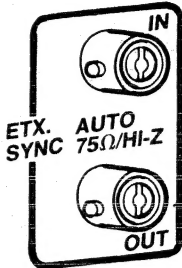


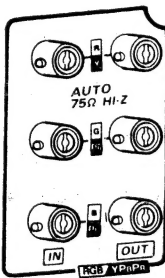
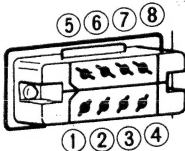
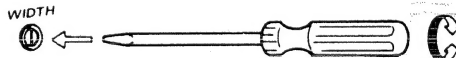
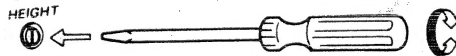

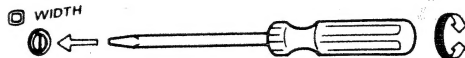

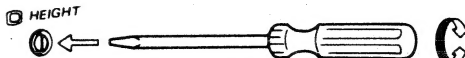
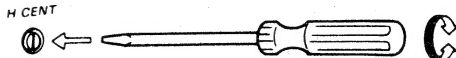
No.	NAME	PURPOSE
19	BRIGHTNESS CONTROL 	Adjust the brightness level for the desired overall picture or display brightness. (Preset Selector switch 24 to "OFF" position)
20	CONTRAST CONTROL 	Adjust the contrast level for the desired overall contrast. (Preset Selector switch 24 to "OFF" position)
21	CHROMA CONTROL 	Adjust the chroma control to set the colour saturation level. (Preset Selector switch 24 to "OFF" position)
22	APERTURE CONTROL 	<ul style="list-style-type: none"> • Turn clockwise to get a crisper picture. • Turn counterclockwise to get a softer picture. (Preset Selector switch 24 to "OFF" position)
23	PRESET CONTROLS 	Each preset controls which belong the manual controls are enabled at Preset Selector switch 24 to "ON" position. Preset levels are preadjusted at factory shipment.
24	PRESET SELECTOR SWITCH 	This switch is used to select whether the picture is at a preset level (fixed), or manually setting the level. • PRESET "ON" : Preset level (fixed) • PRESET "OFF" : Enable manual controls. CONTRAST ; Adjust the picture contrast level. BRIGHTNESS ; Adjust the picture brightness level. CHROMA ; Adjust the colour saturation level. APERTURE ; Adjust the picture to a sharper level.
25	A/B SPLIT SELECTOR SWITCH 	Video signals on Line A terminals 26 and Line B terminals 27 can be monitored respectively in the upper and lower halves of a picture by setting this switch to "ON". For detail, refer to page 13 and 14.  ① Sync signal of Line A and Line B should be the same. ② Input the Sync signal by Ext. Sync terminals 28.

BACK CONTROLS AND TERMINALS



Note: □ Controls and switches
□ Terminals

No.	NAME	PURPOSE
26	LINE A TERMINALS 	<ul style="list-style-type: none">Video signal input/output terminals (BNC).These terminals have automatic termination. When BNC connectors are connected into IN and OUT terminals. 75Ω termination will be automatically opened.
27	LINE B TERMINALS	<ul style="list-style-type: none">Video signal input/output terminals (BNC).These terminals have automatic termination. When BNC connectors are connected into IN and OUT terminals. 75Ω termination will be automatically opened.

No.	NAME	PURPOSE																				
28	EXT. SYNC TERMINALS 	<ul style="list-style-type: none">• Synchronize input/output terminals (BNC).• These terminals have automatic termination. When BNC connectors are connected into IN and OUT terminals. 75Ω termination will be automatically opened.																				
29	RGB YPbPr TERMINALS ( IN/  OUT) 	<ul style="list-style-type: none">• RGB signal or component signal (YPbPr) terminals (BNC).• These terminals have automatic termination. When BNC connectors are connected into IN and OUT terminals. 75Ω termination will be automatically opened.																				
30	VTR (8 PIN) TERMINAL 	<ul style="list-style-type: none">• VTR video signal input/output. <table><tr><th>Pin No.</th><th>Function</th><th>Pin No.</th><th>Function</th></tr><tr><td>1</td><td></td><td>5</td><td></td></tr><tr><td>2</td><td>Video signal IN</td><td>6</td><td>GND (IN)</td></tr><tr><td>3</td><td>GND (OUT)</td><td>7</td><td></td></tr><tr><td>4</td><td>Video signal OUT</td><td>8</td><td></td></tr></table>	Pin No.	Function	Pin No.	Function	1		5		2	Video signal IN	6	GND (IN)	3	GND (OUT)	7		4	Video signal OUT	8	
Pin No.	Function	Pin No.	Function																			
1		5																				
2	Video signal IN	6	GND (IN)																			
3	GND (OUT)	7																				
4	Video signal OUT	8																				
31	WIDTH CONTROL	<ul style="list-style-type: none">• Adjust the width of the picture. 																				
32	HEIGHT CONTROL	<ul style="list-style-type: none">• Adjust the height of the picture. 																				
33	 WIDTH CONTROL (Underscan)	<ul style="list-style-type: none">• Adjust the underscanned width of the picture. 																				
34	 HEIGHT CONTROL (Underscan)	<ul style="list-style-type: none">• Adjust the underscanned height of the picture. 																				
35	H. CENT. CONTROL	<ul style="list-style-type: none">• Adjust the horizontal position of the picture. 																				

Video Signal Performance

For PAL Decoder Section:

Differential Gain; Within 5%
 Differential Phase; Within 5°
 Frequency Response; 100 Hz to 8 MHz ± 3 dB

For RGB Input Section:

Differential Gain; Within 5%
 Differential Phase; Within 5°
 Frequency Response; 100 Hz to 8 MHz ± 3 dB

Synchronization Performance

AFC Time Constant: 0.4 msec. FAST
 1.6 msec. SLOW
 Line Hold Range: More than ± 500 Hz
 Retrace Time: Horizontal retrace time within
 10 μ sec.
 Vertical retrace time within 1 msec.
 Interace: Better than 40/60

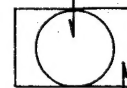
Picture Performance

Overscan: 5% overscan of CRT effective
 screen area
 Underscan: 5% underscan of CRT effective
 screen area
 Linearity: Within a central area bounded by a
 circle whose diameter equals the
 picture height; within 5%
 Out of area; within 7%
 Colour Temperature: 6500°K, adjustable to other colour
 temperatures

Convergence Error:

Central area; Less than 0.8 mm
 Periphery; Less than 1.2 mm

Central area



Periphery

Raster Size Stability:

Less than 4% of picture height,
 (0~500 μ A Beam Current)

Resolution:

More than 550 TV lines
 (Center, at Preset luminance)

Maximum Brightness:

More than 60 fL (at window pattern)

Preset Contrast:

35 fL ± 5 fL**Environment**

Operating Temperature

Range: 0°C to 40°C (32°F to 104°F)

Humidity:

0% to 90%

General

Warm Up:

30 minuits to meet specifications

Anode Voltage:

Properly adjust HV 25.2 KV at zero
beam current

Power Consumption:

98W

Power Requirements:

Alternating Current (AC)
 220~240V $\pm 10\%$, 50 Hz

Dimensions:

448 x 414 x 511 mm

[W×H×D]

17 $\frac{21}{32}$ x 16 $\frac{5}{16}$ x 20 $\frac{1}{8}$ inches

Mass (Weight):

29 kg (63 $\frac{7}{8}$ lbs.)

Supplied Accessories:

AC Power Cord (1)
 Operating Instructions (1)
 Rack Mount Angles (2)

- Specifications are subject to change without notice.
 Weight and dimensions shown are approximate.

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SAFETY PRECAUTIONS

GENERAL GUIDELINES

1. It is advisable to insert an isolation transformer in the AC supply before servicing a hot chassis.
2. When servicing, observe the original lead dress, especially the lead dress in the high voltage circuits. If a short circuit is found, replace all parts which have been overheated or damaged by the short circuit.
3. After servicing, see to it that all the protective devices such as insulation barriers, insulation papers, shields, and isolation R-C combinations, are properly installed.
4. Before turning the monitor on, measure the resistance between B+ line and cold side chassis earth. Connect the \ominus side of an ohmmeter to the B+ lines, and the \oplus side to chassis earth. Each line should have more resistance than specified, as follows:

B+ Line	Minimum Resistance
1kV (TPD4)	3k Ω
160V (TPD120)	4k Ω
100V (TPD91)	3k Ω
24V (TPD24)	400 Ω
17V (IC801 ① pin)	400 Ω
12V (TPD12)	400 Ω

5. When the monitor is not used for a long period of time, unplug the power cord from the AC outlet.
6. Potentials, as high as 26.0 kV are present when this monitor is in operation. Operation of the monitor without the rear cover involves the danger of a shock hazard from the monitor power supply. Servicing should not be attempted by anyone who is not thoroughly familiar with the precautions necessary when working on high voltage equipment. Always discharge the anode of the picture tube to chassis earth before handling the tube.
7. After servicing, make the following leakage current checks to prevent the customer from being exposed to shock hazards.

LEAKAGE CURRENT COLD CHECK

1. Unplug the AC cord and connect a jumper between the two prongs on the plug.
2. Turn on the monitor's power switch.
3. Measure the resistance value, with an ohmmeter, between the jumpered AC plug and each exposed metallic cabinet part on the monitor, such as screwheads, connectors, control shafts, etc.

When the exposed metallic part has a return path to the chassis, the reading should be more than 1M Ω .

When the exposed metal does not have a return path to the chassis, the reading must be ∞ .

LEAKAGE CURRENT HOT CHECK (See Fig. 1)

1. Plug the AC cord directly into the AC outlet. Do not use an isolation transformer for this check.
2. Connect a 1.5 k Ω , 10 watt resistor, in parallel with a 0.15 μ F capacitor, between each exposed metallic part on the set and a good earth ground such as a water pipe, as shown in Fig. 1.
3. Use a high impedance AC voltage meter to measure the potential across the resistor.
4. Check each exposed metallic part, and measure the voltage at each point.
5. Reverse the AC plug in the AC outlet and repeat each of the above measurements.
6. The potential at any point should not exceed 0.75 volts RMS. A leakage current tester (Simpson Model 229 or equivalent) may be used to make the hot checks, leakage current must not exceed 500 μ A. In case a measurement is outside of the limits specified, there is a possibility of a shock hazard, and the monitor should be repaired and rechecked before it is returned to the customer.

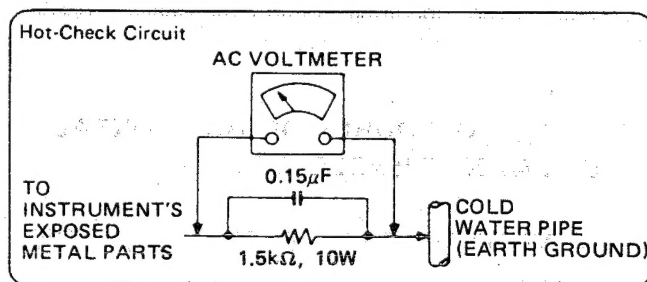


Fig. 1

X-RADIATION

- WARNING:** 1. The potential source of X-Radiation in monitor set is the high voltage section and picture tube.
2. When using a picture tube test jig for service, make sure that the jig is capable of handling 26.0 kV without causing X-Radiation.

NOTE: It is important to use an accurate, periodically calibrated high voltage meter.

1. Turn the Set-up switch (SW5806) and Underscan switch ☐ to the ON position.
2. Turn the Brightness control (R5824) fully counter-clockwise.
3. Set the Service switch (S401) to the SERVICE position.
4. Measure the high voltage. The meter (electrostatic type) reading should indicate $24.5 \text{ kV} \pm 1.5 \text{ kV}$. If the meter indication is out of tolerance, immediate service and correction is required to prevent the possibility of premature component failure.
5. To prevent an X-Radiation possibility, it is essential to use the specified picture tube.

HORIZONTAL OSC. DISABLE CIRCUIT TEST

This test must be made as a final check before the set is returned to the customer.

1. When the rear cover removed, supply a normal 220V ~ 240V AC to the set, turn on the power switch.
2. Set the customer controls to their normal operating position.
3. Make short circuit TPD91 and pin ④ of IC551 with a $3 \text{ k}\Omega$ resistor.
4. If this does not occur, the Horizontal Osc. Disable Circuit is not operating. Follow the Repair Procedures of Horizontal Oscillator Disable Circuit before the set is returned to customer.

REPAIR PROCEDURES OF HORIZONTAL OSCILLATOR DISABLE CIRCUIT

1. Connect a DC voltmeter between capacitor C573 \oplus on the A-board and chassis earth. If nearly +24.7V is not present on that point, find the cause. Check R570, C573 and D557.
2. Connect a DC voltmeter between pin ⑫ of IC501 on the A-board and chassis earth. If nearly +2.1V is not present on that point, check R5631, R511, R512, R513, D510, IC551 and IC501.
3. Carefully check the above specified parts and related circuits and parts. When the circuit is repaired, the Horizontal Oscillator Disable Circuit Test must be made again.

CIRCUIT EXPLANATION

HORIZONTAL OSCILLATOR DISABLE CIRCUIT

The positive DC voltage supplied from the cathode of D557 for monitoring the high voltage is applied to pin ④ of IC551 through R570 and to the base of Q903 through R909.

The voltage at the emitter of Q903 is regulated by zener diode D901. Under normal conditions, the voltage applied across the base and emitter of Q903 is not sufficient to cause emitter current to flow and holds the transistor cut off.

If the high voltage exceeds the specified level, the positive DC voltage supplied from the cathode of D557 increases. The voltage through D557 is dividing by R909 and R908, and applied to the base of Q903. If V_{be} is nearly more than +0.7V, the transistor Q903 turns on, and the collector voltage of Q903 lowers which is connected to the base of Q902.

Therefore Q902 turns on, and the collector voltage of Q902 increases, which is connected to the base of Q901. Consequently Q901 turns on, and collector current of Q901, which is connected to the pin ⑫ of IC501, begins to flow simultaneously. This causes the horizontal oscillator frequency to increase, and also causes loss of horizontal synchronization. (Fig. 1).

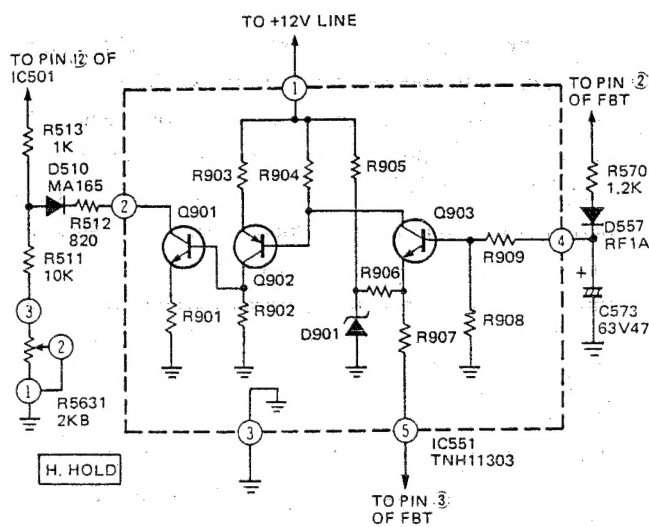
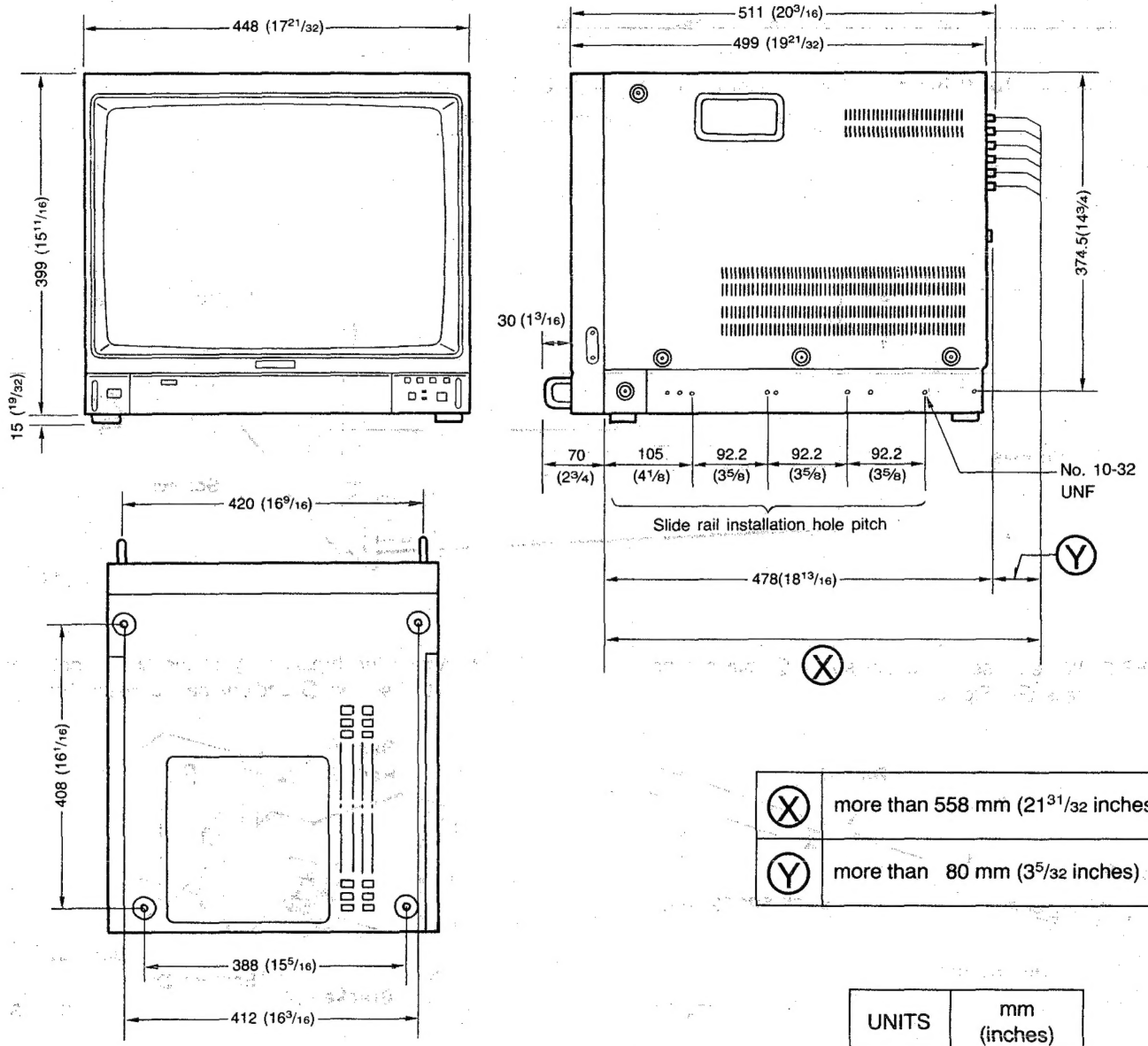


Fig. 1

DIMENSIONS



METHOD OF RACK MOUNT

1. Rack Width

This colour video monitor fits most 482.6 mm (19 inches) wide cabinet racks.

EIA STANDARD: RS-310-C

2. Rack Depth

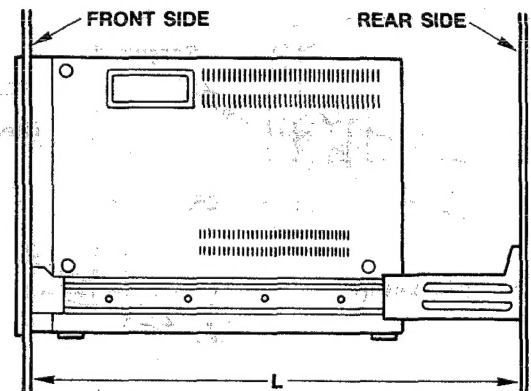
Rack depth should be more than 550 mm (22 inches).

3. Slide and Bracket

We recommend the following for proper installation.

Chassis-Track's	
Distance: L	Slide
L = 490~590 mm	C-300-S-116
L = 540~640 mm	C-300-S-118

Note: Concerning bracket for slide rail installation use; please purchase the one that corresponds to the rack structure from rail (or rack) maker.



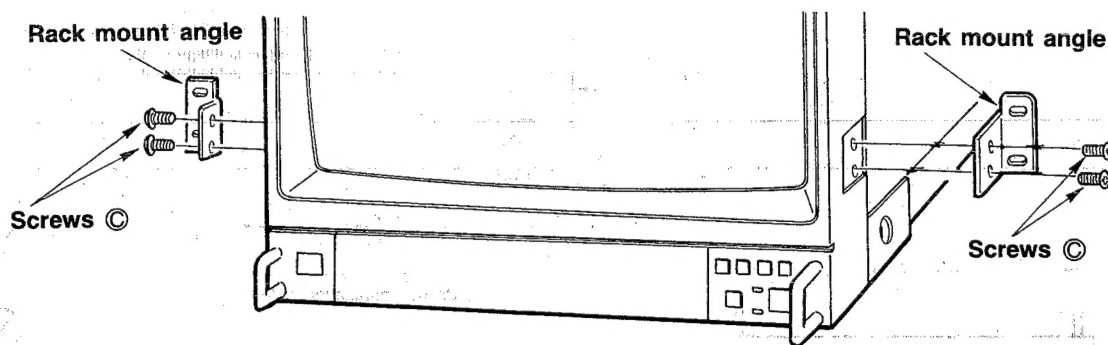
4. Slide and Bracket mounting.

Note:

The mounting using slide of the chassis-track's is described below.

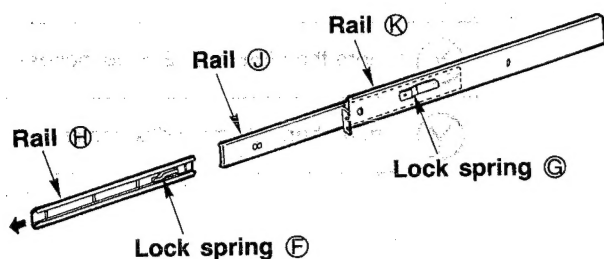
- **Accessories for this unit:** Rack mount angles, Brackets ①, Brackets ②, Screws ③, Screws ④, Washers ⑤, Nuts ⑥.

STEP 1. Mount and secure both the right and left rack mount angles (attached to BT-D2020PY/D2020PYG) on the unit using 2 screws ③ each. [Fig. 1]



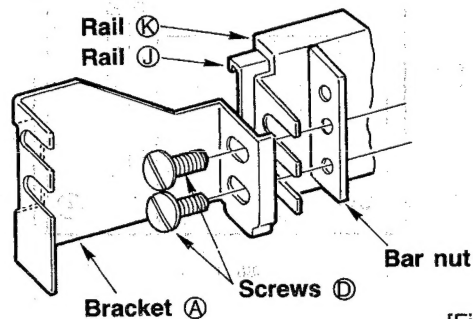
[Fig. 1]

STEP 2. While pressing the lock spring ⑦, pull out the rails ⑧. [Fig. 2]



[Fig. 2]

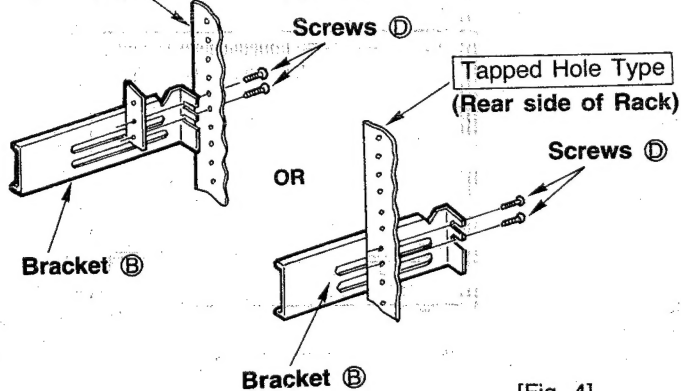
STEP 3. Attach the brackets ① at the tips of both rails with 2 screws ④ and one bar nut each. [Fig. 3]



[Fig. 3]

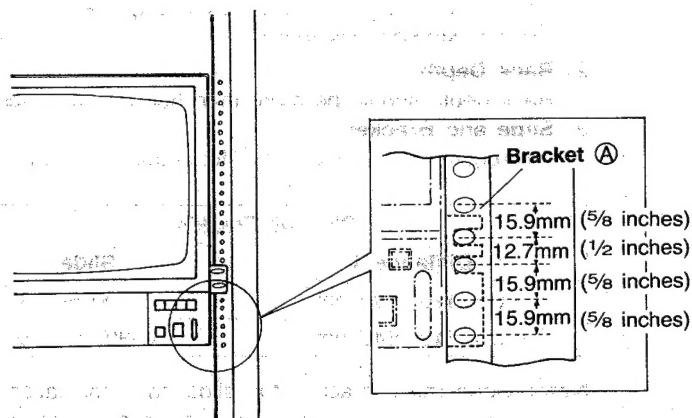
STEP 4. Mount and secure both the right and left brackets ② on the rack using 2 screws ④ each. [Fig. 4]

Through Hole Type
(Rear side of Rack)




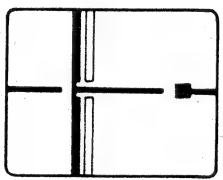
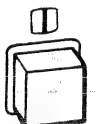

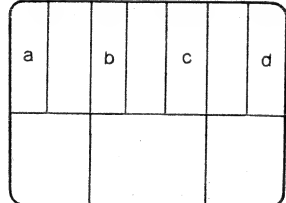



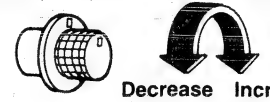
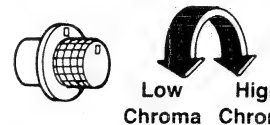

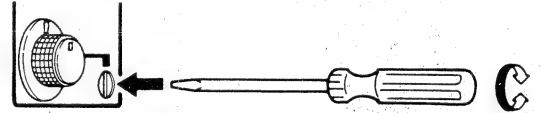
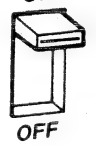

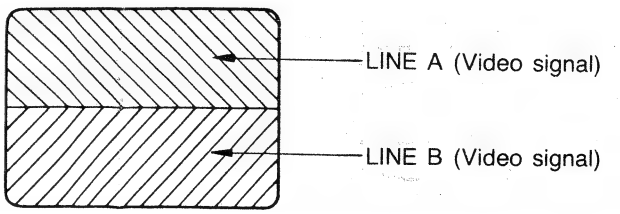
[Fig. 4]

STEP 5. Attach the brackets ① at the location shown in [Fig. 5].



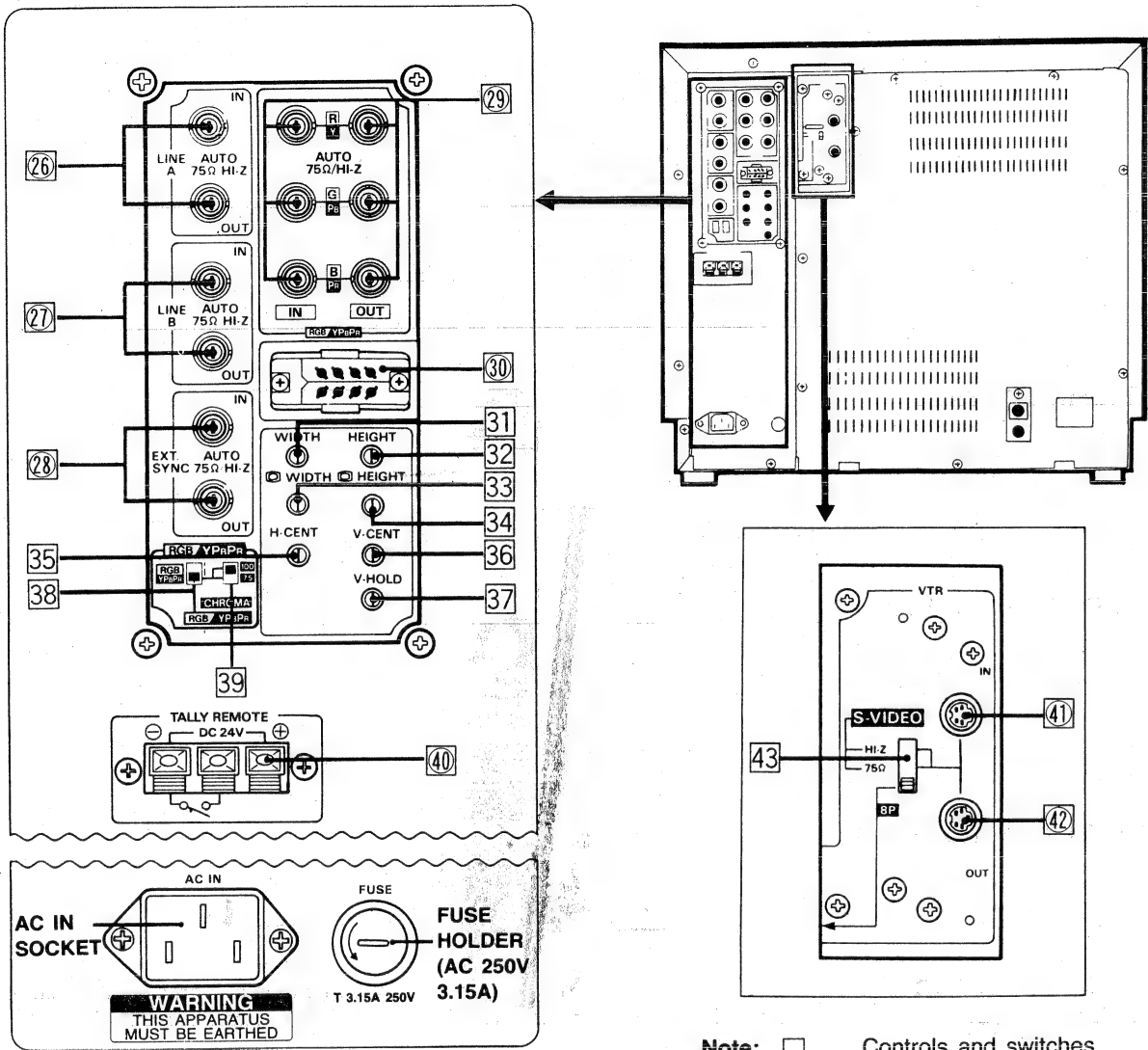
[Fig. 5]

No.	NAME	PURPOSE
14	SYNC (INT/EXT) SELECTOR SWITCH 	INT: The monitor operates on the sync signal from the displayed composite video signal. EXT: The monitor operates on an external sync signal supplied from the Ext. Sync terminals 28 on the rear panel.
15	UNDERSCAN SWITCH 	Depress this switch for underscanning. The display size is reduced by approximately 5% so that four corners of the raster are visible.
16	VERTICAL DELAY SWITCH 	Depress this switch to observe the vertical sync signal. The picture is delayed vertically and the vertical sync signal is displayed near the center of the screen. Picture brightness is automatically increased for easy observation. • A pulse cross is displayed by depressing both the 11 and 12 switches. 
17	HORIZONTAL DELAY SWITCH 	Depress this switch to observe the horizontal sync signal. The picture is delayed horizontal and the horizontal sync signal is displayed in the left size of the screen. Picture brightness is automatically increased for easy observation.
18	BLUE SIGNAL ONLY SWITCH 	Depress this switch to observe BLUE signal in Black and White. This makes it easier to adjust chrominance (using colour bar display) and increases visibility of video tape dropouts and playback noise.  (colour bar pattern) Note: When Chroma control 21 is turned, and (a)~(d) white level is adjusted to the same, it will be the standard colour.

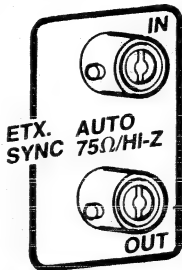


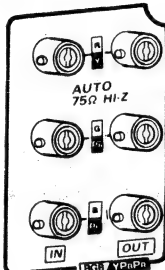
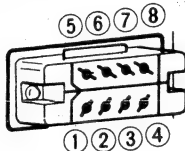
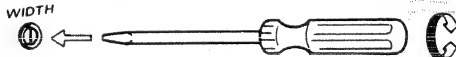
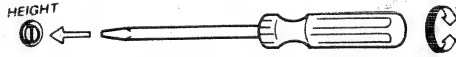

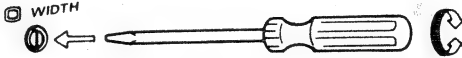

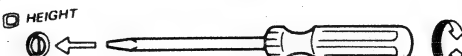
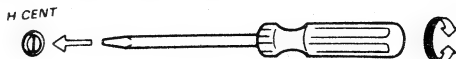
No.	NAME	PURPOSE
19	BRIGHTNESS CONTROL 	Adjust the brightness level for the desired overall picture or display brightness. (Preset Selector switch 24 to "OFF" position)
20	CONTRAST CONTROL 	Adjust the contrast level for the desired overall contrast. (Preset Selector switch 24 to "OFF" position)
21	CHROMA CONTROL 	Adjust the chroma control to set the colour saturation level. (Preset Selector switch 24 to "OFF" position)
22	APERTURE CONTROL 	• Turn clockwise to get a crisper picture. • Turn counterclockwise to get a softer picture. (Preset Selector switch 24 to "OFF" position)
23	PRESET CONTROLS 	Each preset controls which belong the manual controls are enabled at Preset Selector switch 24 to "ON" position. Preset levels are preadjusted at factory shipment.
24	PRESET SELECTOR SWITCH 	This switch is used to select whether the picture is at a preset level (fixed), or manually setting the level. • PRESET "ON" : Preset level (fixed) • PRESET "OFF" : Enable manual controls. CONTRAST ; Adjust the picture contrast level. BRIGHTNESS ; Adjust the picture brightness level. CHROMA ; Adjust the colour saturation level. APERTURE ; Adjust the picture to a sharper level.
25	A/B SPLIT SELECTOR SWITCH 	Video signals on Line A terminals 26 and Line B terminals 27 can be monitored respectively in the upper and lower halves of a picture by setting this switch to "ON". For detail, refer to page 13 and 14. 

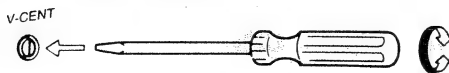
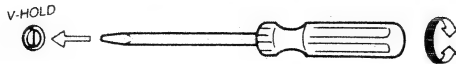
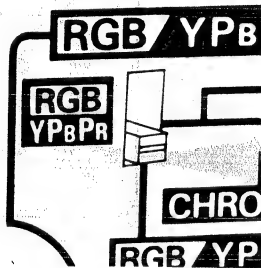
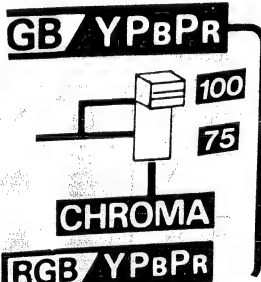
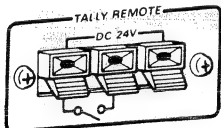
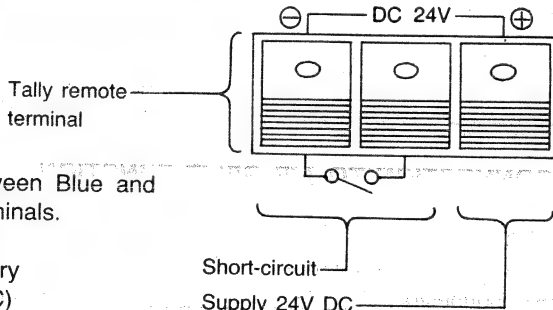
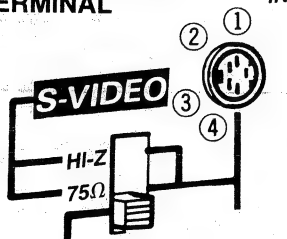
- ① Sync signal of Line A and Line B should be the same.
 ② Input the Sync signal by Ext. Sync terminals 28.


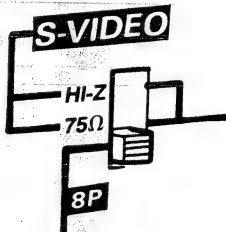
BACK CONTROLS AND TERMINALS



No.	NAME	PURPOSE
26	LINE A TERMINALS	<ul style="list-style-type: none">• Video signal input/output terminals (BNC).• These terminals have automatic termination. When BNC connectors are connected into IN and OUT terminals. 75Ω termination will be automatically opened.
27	LINE B TERMINALS	<ul style="list-style-type: none">• Video signal input/output terminals (BNC).• These terminals have automatic termination. When BNC connectors are connected into IN and OUT terminals. 75Ω termination will be automatically opened.

No.	NAME	PURPOSE																				
28	EXT. SYNC TERMINALS 	<ul style="list-style-type: none">• Synchronize input/output terminals (BNC).• These terminals have automatic termination. When BNC connectors are connected into IN and OUT terminals. 75Ω termination will be automatically opened.																				
29	RGB YPbPr TERMINALS ( IN /  OUT) 	<ul style="list-style-type: none">• RGB signal or component signal (YPbPr) terminals (BNC).• These terminals have automatic termination. When BNC connectors are connected into IN and OUT terminals. 75Ω termination will be automatically opened.																				
30	VTR (8 PIN) TERMINAL 	<ul style="list-style-type: none">• VTR video signal input/output. <table border="1"><thead><tr><th>Pin No.</th><th>Function</th><th>Pin No.</th><th>Function</th></tr></thead><tbody><tr><td>1</td><td>_____</td><td>5</td><td>_____</td></tr><tr><td>2</td><td>Video signal IN</td><td>6</td><td>GND (IN)</td></tr><tr><td>3</td><td>GND (OUT)</td><td>7</td><td>_____</td></tr><tr><td>4</td><td>Video signal OUT</td><td>8</td><td>_____</td></tr></tbody></table>	Pin No.	Function	Pin No.	Function	1	_____	5	_____	2	Video signal IN	6	GND (IN)	3	GND (OUT)	7	_____	4	Video signal OUT	8	_____
Pin No.	Function	Pin No.	Function																			
1	_____	5	_____																			
2	Video signal IN	6	GND (IN)																			
3	GND (OUT)	7	_____																			
4	Video signal OUT	8	_____																			
31	WIDTH CONTROL	<ul style="list-style-type: none">• Adjust the width of the picture. 																				
32	HEIGHT CONTROL	<ul style="list-style-type: none">• Adjust the height of the picture. 																				
33	 WIDTH CONTROL (Underscan)	<ul style="list-style-type: none">• Adjust the underscanned width of the picture. 																				
34	 HEIGHT CONTROL (Underscan)	<ul style="list-style-type: none">• Adjust the underscanned height of the picture. 																				
35	H. CENT. CONTROL	<ul style="list-style-type: none">• Adjust the horizontal position of the picture. 																				

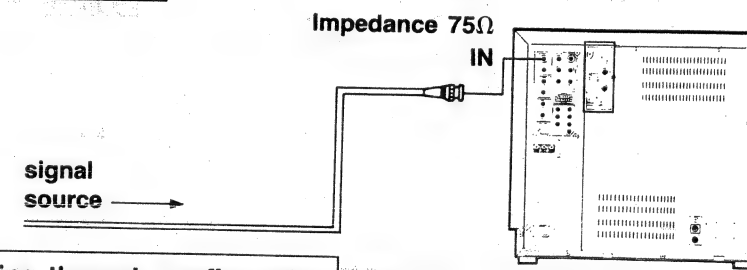
No.	NAME	PURPOSE												
36	V-CENT. CONTROL	<ul style="list-style-type: none">Adjust the vertical position of the picture. 												
37	V-HOLD CONTROL	<ul style="list-style-type: none">Adjust the vertical-hold control and set it at a point where vertical movement is stopped. 												
38	RGB/YPbPr SELECTOR SWITCH	<p>This switch is for setting the received signal either to an RGB signal or to a component signal (YPbPr), when Input Selector switches 5 front side of this unit is set at RGB/YPbPr position.</p> <ul style="list-style-type: none">When RGB signal is connected to the RGB/YPbPr terminals 29, change over to RGB side.When component signal (YPbPr) is connected to RGB/YPbPr terminals, change over to YPbPr side. 												
39	CHROMA SELECTOR SWITCH	<p>This switch is for setting chromatic level turning to the connected signal, when the component signal (YPbPr) is connected to the RGB/YPbPr terminals.</p> <ul style="list-style-type: none">In the case of 100% colour bar standard system (MII system), change over to the 100 side.In the case of 75% colour bar standard system, change over to the 75 side. 												
40	TALLY REMOTE TERMINALS	<p>Method A)</p> <ol style="list-style-type: none">Supply 24V DC between Red and Black (GND) terminals.Tally lamp lights. <p>Method B)</p> <ol style="list-style-type: none">Short-circuit between Blue and Black (GND) terminals.Tally lamp lights. (It is not necessary to supply 24V DC)  												
41	S-VIDEO INPUT TERMINAL	<ul style="list-style-type: none">Luminance signal and chroma signal input terminal (4 pin). <table><thead><tr><th>Pin No.</th><th>Function</th><th>Pin No.</th><th>Function</th></tr></thead><tbody><tr><td>1</td><td>GND (Luminance)</td><td>3</td><td>Chroma</td></tr><tr><td>2</td><td>Luminance</td><td>4</td><td>GND (Chroma)</td></tr></tbody></table> 	Pin No.	Function	Pin No.	Function	1	GND (Luminance)	3	Chroma	2	Luminance	4	GND (Chroma)
Pin No.	Function	Pin No.	Function											
1	GND (Luminance)	3	Chroma											
2	Luminance	4	GND (Chroma)											

No.	NAME	PURPOSE												
42	<div>S-VIDEO OUTPUT TERMINAL</div> <div></div> <div>OUT</div>	<ul style="list-style-type: none">Luminance signal and chroma signal output terminal (4 pin). <table><tr><th>Pin No.</th><th>Function</th><th>Pin No.</th><th>Function</th></tr><tr><td>1</td><td>GND (Luminance)</td><td>3</td><td>Chroma</td></tr><tr><td>2</td><td>Luminance</td><td>4</td><td>GND (Chroma)</td></tr></table>	Pin No.	Function	Pin No.	Function	1	GND (Luminance)	3	Chroma	2	Luminance	4	GND (Chroma)
Pin No.	Function	Pin No.	Function											
1	GND (Luminance)	3	Chroma											
2	Luminance	4	GND (Chroma)											
43	<div>8 PIN/S-VIDEO SELECTOR & INPEADANCE SELECTOR SWITCH</div> <div></div>	<ul style="list-style-type: none">8P (VTR) and S-Video terminal selector switch.When bridging or looping through the S-Video signals, set this switch at High position, and for other cases this switch should be set at 75Ω position.												

◆ Automatic Termination

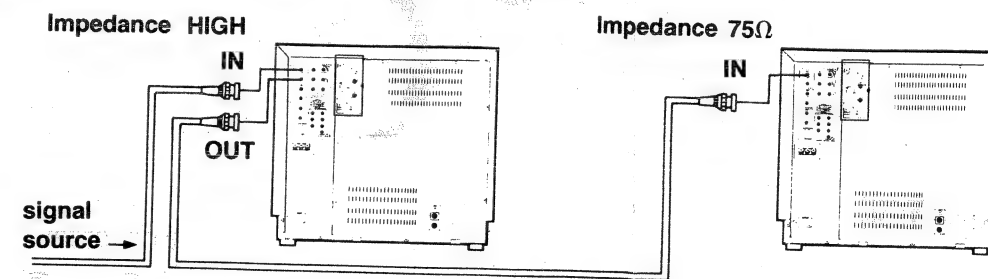
Automatic Termination refers to Panasonic's original automatic impedance selector system. It replaces the Impedance Selector switch used in existing monitors. The impedance is automatically set to 75Ω by the input of a signal to the input terminal while operating in the non-output mode [Fig. ④]. However, if equipment is connected to the Line-out terminal, the connection is put in the open status by the Loop Through Configuration and high impedance is automatically selected. [Fig. ⑤]

Normal operation (Example: Line A terminals)



[Fig. ④]

Looping through configuration (Example: Line A terminals)



[Fig. ⑤]

Note:

- The video terminals of the BT-D2020PY/D2020PYG are designed for use with BNC connectors, and the use of a special 75Ω connector is not required.
- Even if connection to terminal (IN-OUT) is reversed by mistake, the Loop Through Configuration of Panasonic's new video monitor ensures normal operation.

CAUTION:

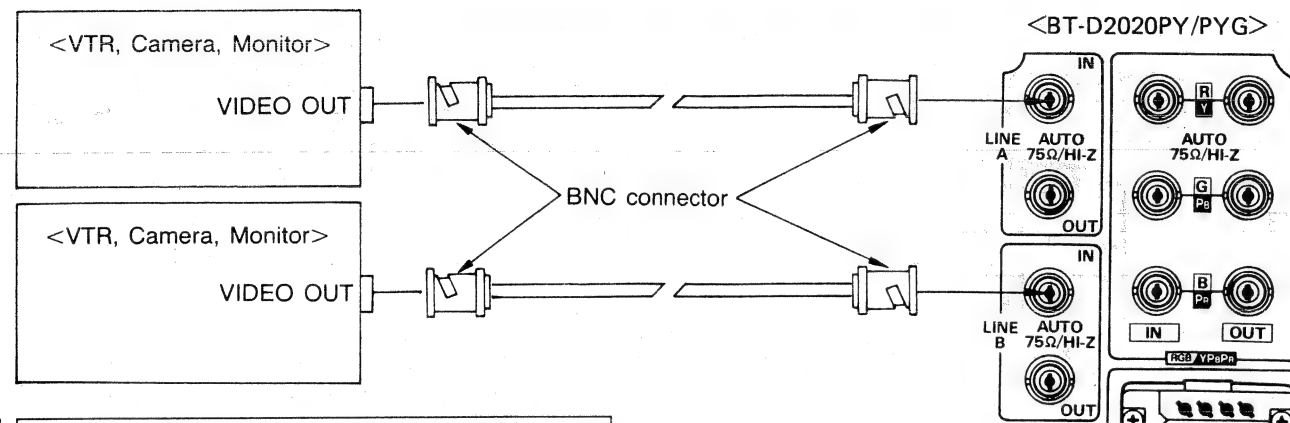
The IN/OUT terminal of S-VIDEO (Separated Y/C signal) has no automatic termination mechanism. If the S-VIDEO (Separated Y/C signal) is connected, the Impedance Selector switch 43 of the terminals at the back side should be set to the appropriate position 75 Ω or HI-Z.

CONNECTIONS

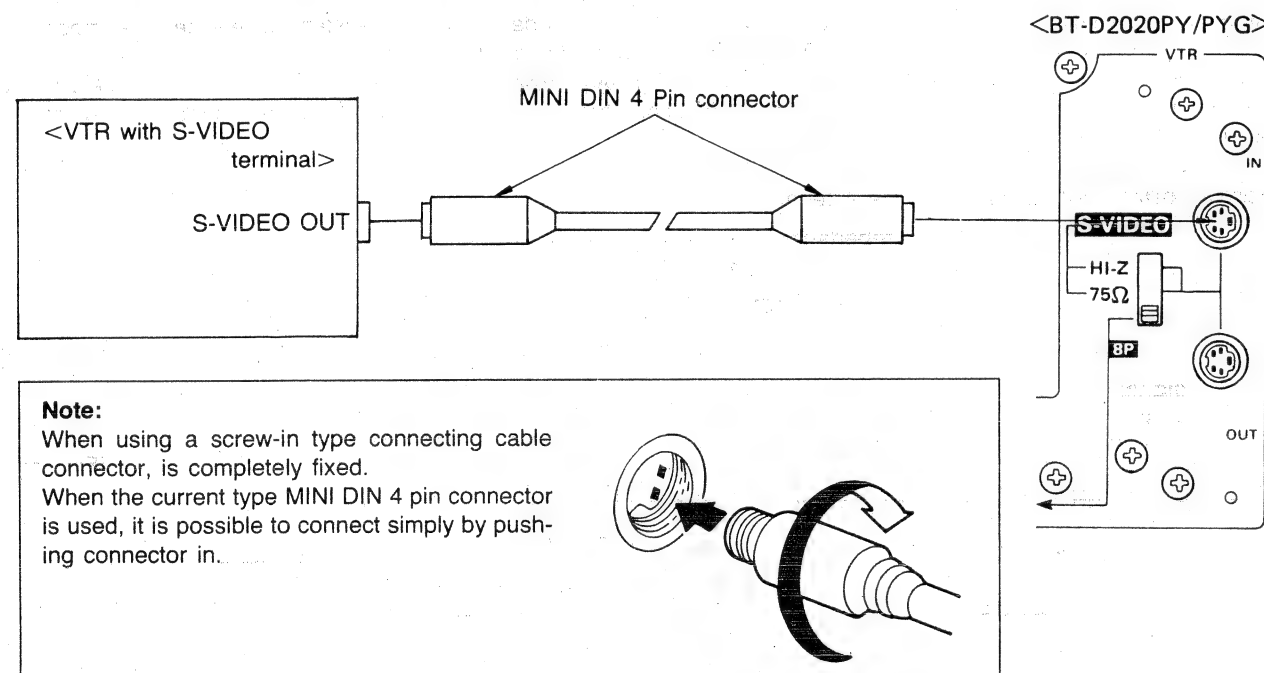
Note: Refer to these connecting instructions as follows together with the operating manual of the apparatus that is to be connected to this unit.

1 LINE (A, B) CONNECTION

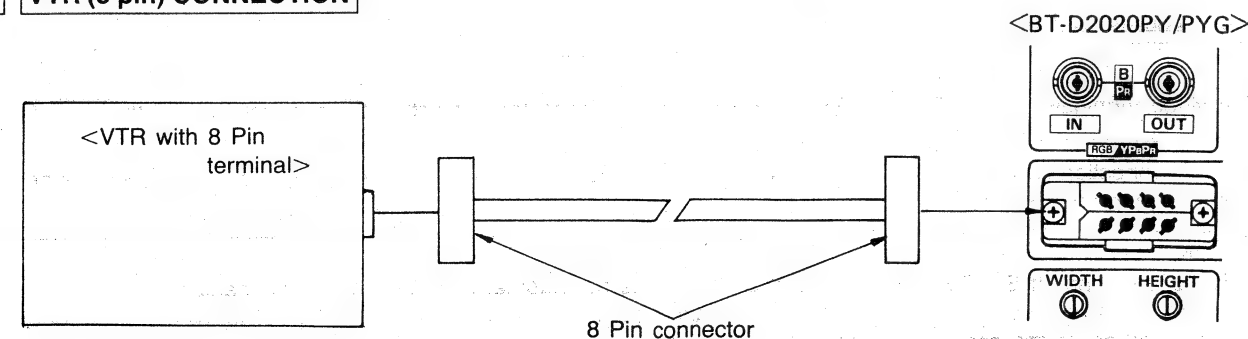
To connect the normal video signal (VTR, Camera, Monitor ... etc.), use BNC type connecting cable as follows.



2 S-VIDEO (Separated Y/C signal) CONNECTION

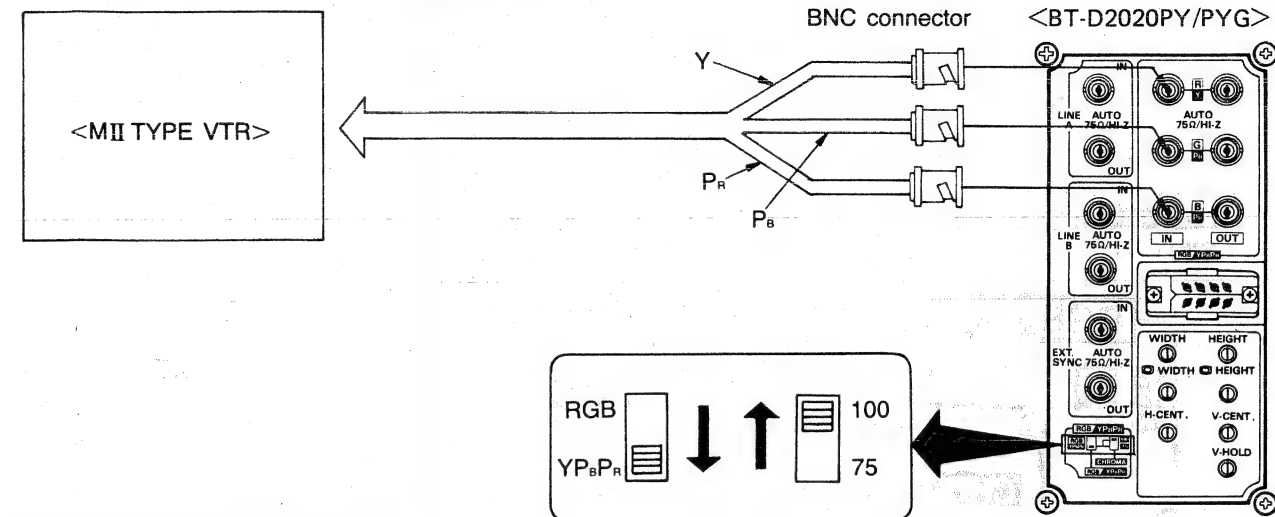


3 VTR (8 pin) CONNECTION



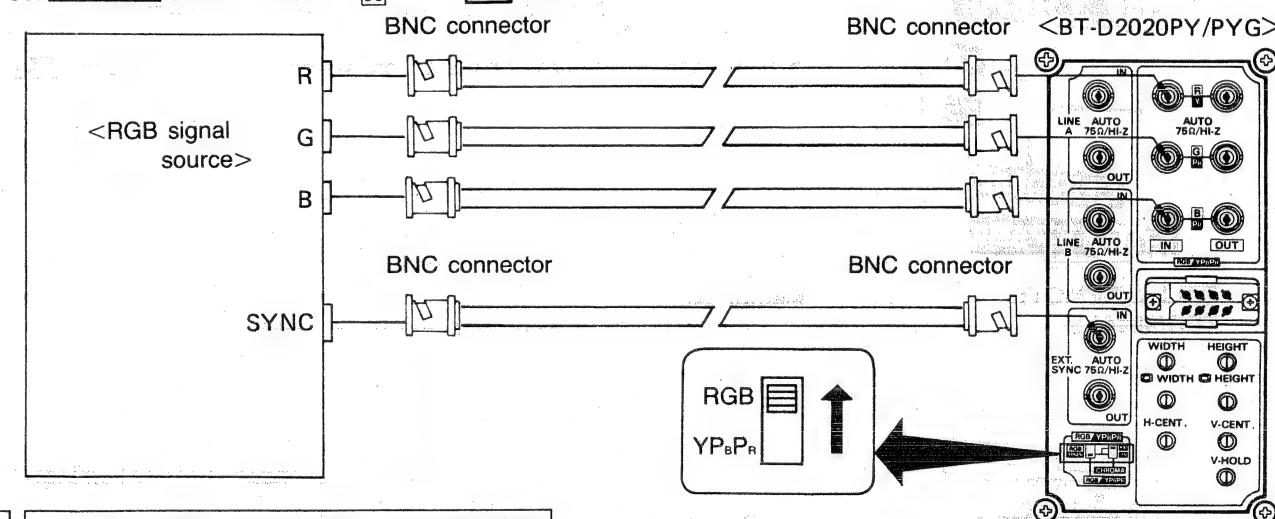
4 MII TYPE VTR CONNECTION

- When MII VTR is to be connected, connect the component signals (Y, P_b, P_r) to the **RGB YPbPr** terminals of this unit, according to the procedures of the following figure.
- Set the front side Input Selector switch **5** to **RGB YPbPr** mode.
- Set **RGB YPbPr** Selector switch **38** to **YPbPr** side.
- Set Chroma Selector switch **39** to **100** side.



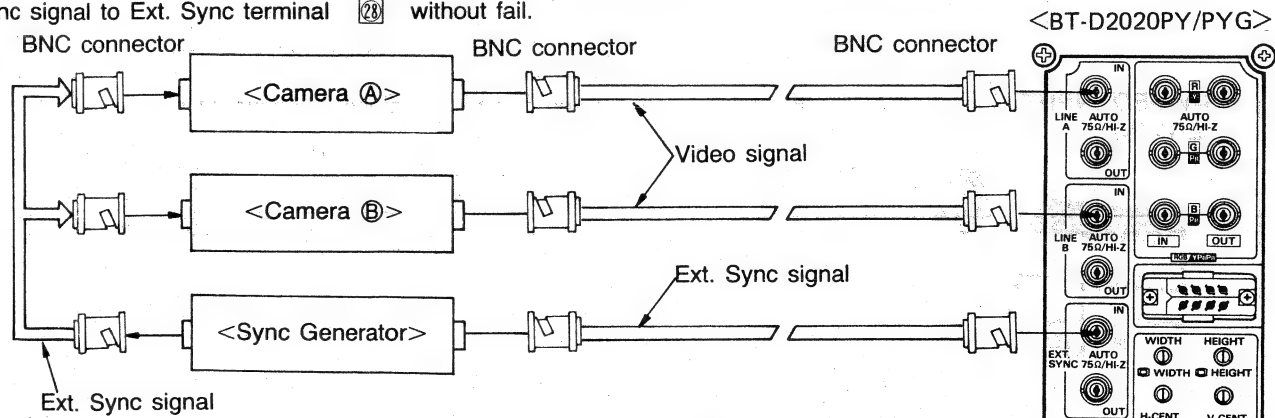
5 RGB SIGNAL CONNECTION

- Connect the RGB signals to the **RGB YPbPr** terminals of this unit.
- Set the front side Input Selector switch **5** to **RGB YPbPr** mode.
- Set **RGB YPbPr** Selector switch **38** to **RGB** side.



6 CONNECTION TO A/B SPLIT FUNCTION

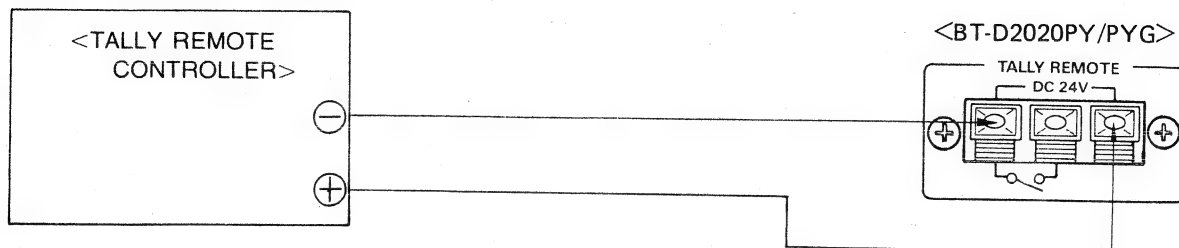
When split function is used, when indicates a video signal input via LINE A and LINE B on the same screen, input external sync signal to Ext. Sync terminal **29** without fail.



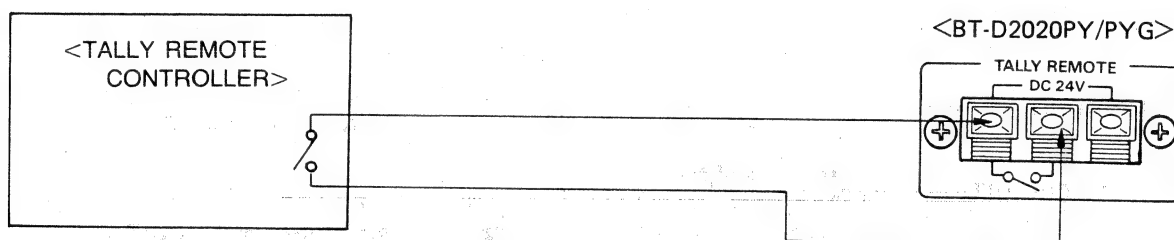
7 CONNECTION TO TALLY REMOTE FUNCTION

When TALLY REMOTE CONTROL signal is to be input, the following are 2 connecting methods;

Method 1; Connect the red terminal of 24 V DC to the ⊕ side, and its black (GND) terminal to the ⊖ side.



Method 2; Short-circuit the black (GND) terminal and the blue terminal.



DAILY ADJUSTMENT

Degaussing

Variation in the purity of the monitor due to the monitor is controlled as much as possible. If for any reason the monitor is moved, degauss the cathode-ray tube according to the procedure given below.

- (1) The power supply is on as soon as the power switch is turned on. The light emitting diode located above the power switch light to indicate that the power supply is on.
- (2) Push the degaussing switch located on the front panel for not less than 10 seconds. During this operation, the magnetization of the cathode-ray tube disappear. If the switch is released before 10 seconds elapse, the cathode-ray tube will become magnetized instead of becoming degaussed. Be sure to keep the switch down longer than 10 seconds. If the switch is released before 10 seconds elapse, no degaussing is possible even if the switch is pushed again. Wait for 2 or 3 minutes before degaussing again.
- (3) If the facility has its own separate degaussing coil (degausser), use it. This is the ideal degaussing operation. In this operation, line voltage of AC is applied to the degausser. It should be moved close to the screen and moved in a circle two or three times directly in front of the screen. Then the degausser is slowly moved away from the screen and the power to the degausser is turned off when it is over 2m (6 feet) from the screen.

GENERAL ADJUSTMENT

Under normal operating conditions, the specified performance of the monitor can be obtained by operating the controls located on the front of the monitor.

In case specified performance is not obtainable, refer to Measurements and Adjustment.

DISASSEMBLY INSTRUCTIONS

WARNING:

1. When turning over a P.W. Board to adjust it, be sure to lay on insulating material under it in order to prevent shorting.
2. P.W. Boards and wires should not be pulled forcibly, but be handled carefully.
3. Before disassembly, remove the AC plug from the wall outlet.
4. When removing the back over take care not to damage the neck of the CRT.
5. P.W. Boards and connectors should be handled with care avoid handling them forcibly !.
6. When handling the A-Board with the power ON, there is a risk of an Electric shock if you use the COLD side heat sink while working on the HOT side of the chassis.

CIRCUIT BOARD LAYOUT

B-BOARD:

SIGNAL DISPOSITION CIRCUIT

W-BOARD:

SIGNAL OUT CIRCUIT

G-BOARD:

REAR TERMINAL CIRCUIT

R-BOARD:

COLOUR DIFFERENCE CIRCUIT

P-BOARD:

S-VIDEO TERMINAL CIRCUIT

Q-BOARD:

S-VIDEO SIGNAL OUT CIRCUIT

D-BOARD:

PINCUSHION CIRCUIT

L-BOARD:

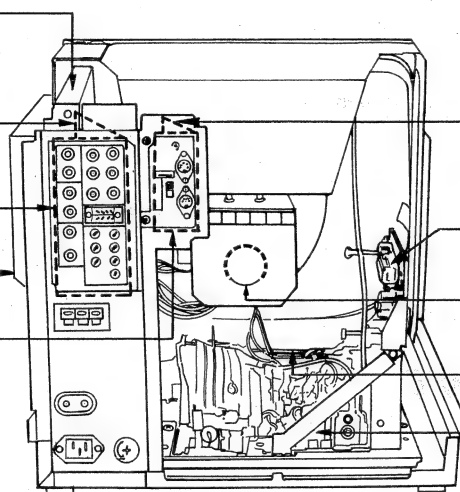
CRT DRIVE CIRCUIT

C-BOARD:

OPERATION CIRCUIT

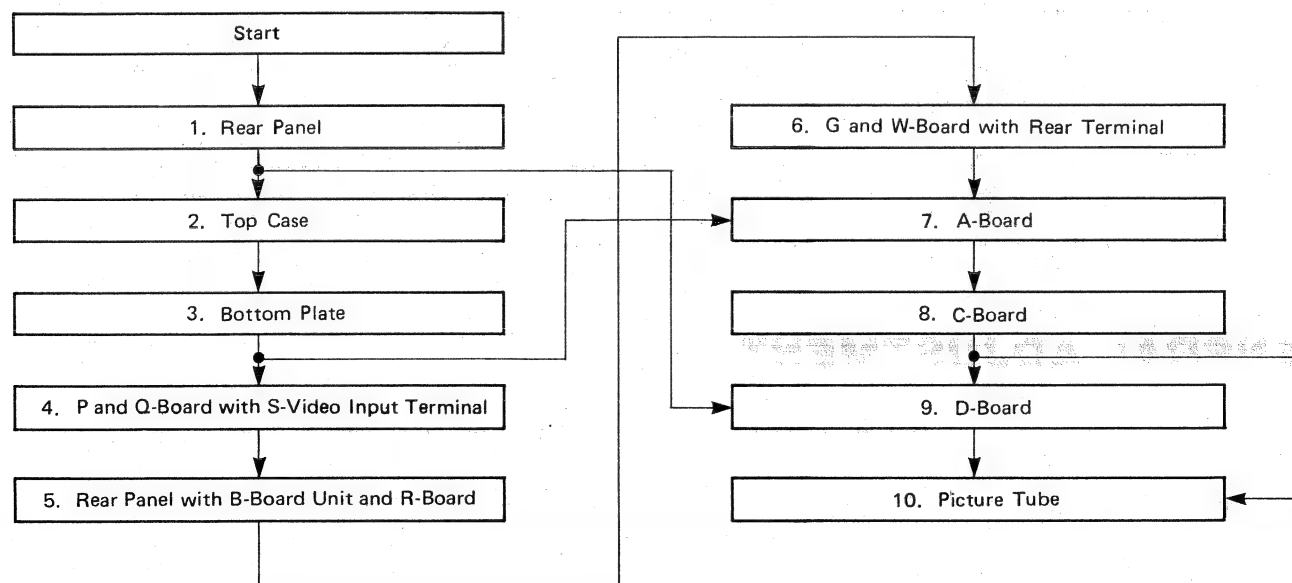
A-BOARD:

MAIN CIRCUIT



DISASSEMBLY FLOWCHART

This flowchart indicates disassembly items of the cabinet parts and Circuit Boards in order to find the items necessary for servicing. When reassembling, perform the steps in the reverse order.



1. REMOVAL OF REAR PANEL

- 1. Remove 8 screws (A).
- Then carefully lift the rear panel.

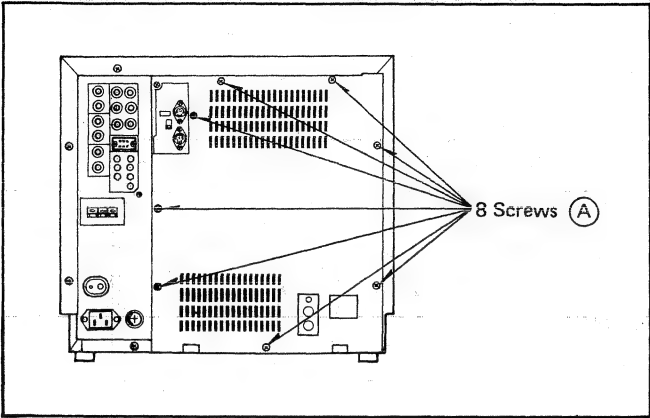


Fig. 1

2. REMOVAL OF TOP CASE

- 1. Remove the rear panel.
- 2. Remove 8 screws (B).

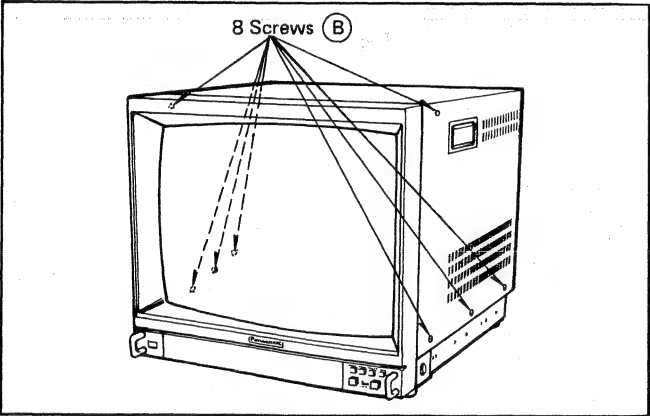


Fig. 2

- 3. Remove 3 screws (C).
- Then carefully lift the top case.

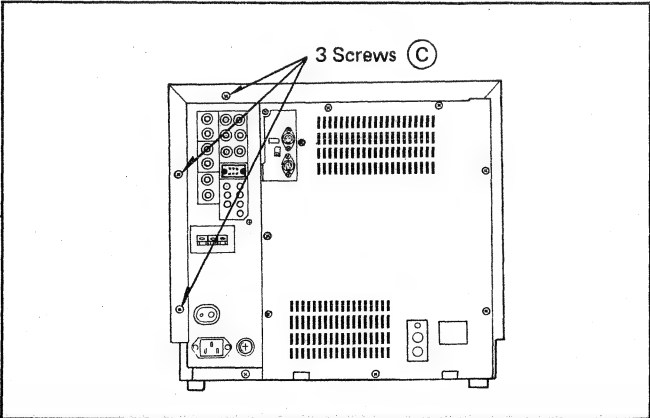


Fig. 3

3. REMOVAL OF BOTTOM PLATE

- 1. Remove 2 screws (D).
- Then carefully remove the bottom plate.

Note: Please the cushion under the set for not damaged the Front portion of the set.

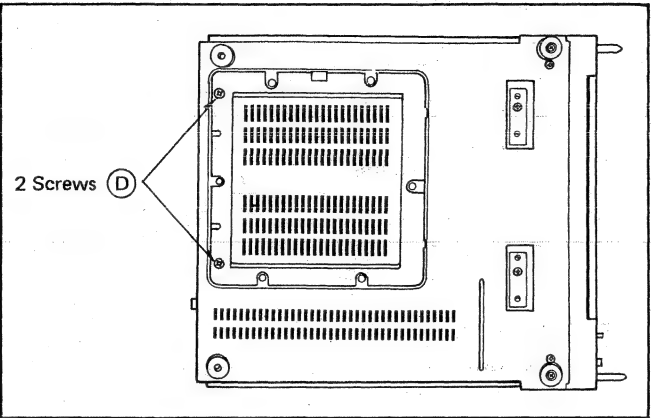


Fig. 4

4. REMOVAL OF P AND Q-BOARD WITH S-VIDEO INPUT TERMINAL (COLD)

- 1. Remove 2 screws (E).
- Then carefully remove the P and Q-Boards with S-Video input terminal.

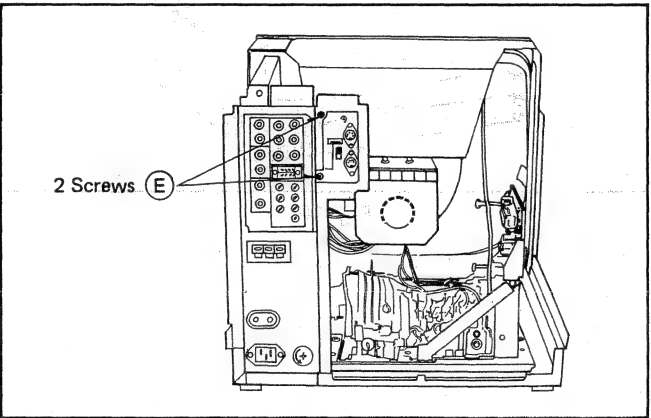


Fig. 5

5. REMOVAL OF REAR PANEL WITH B-BBOARD UNIT AND R-BBOARD (HOT AND COLD)

- 1. Remove 2 screws (F).

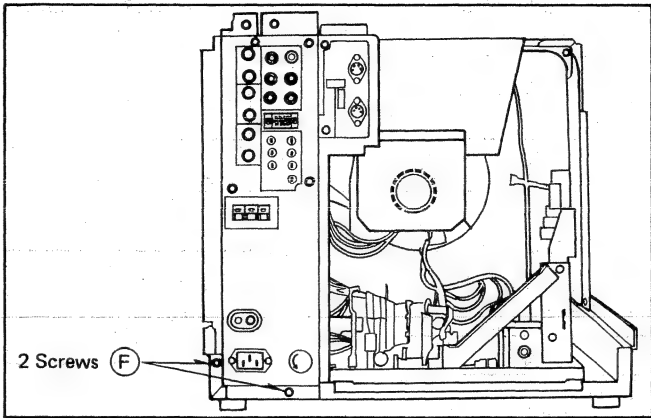


Fig. 6

- 2. Remove 2 screws (G) and unlock the 2 locking portions.
- Then carefully tilt off the rear panel with B-Board unit and R-Board.

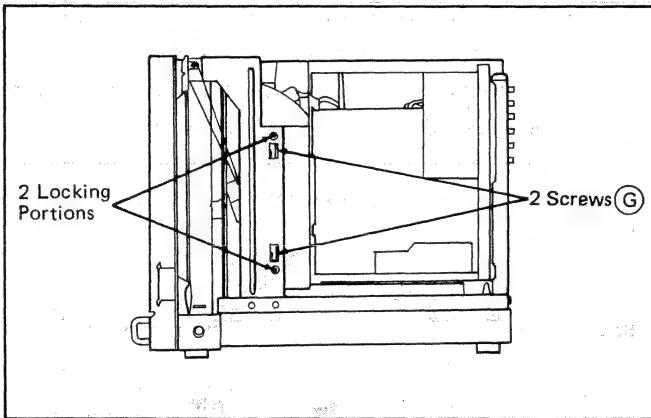


Fig. 7

6. REMOVAL OF G AND W-BOARD WITH REAR TERMINAL (COLD)

- 1. Remove the P and Q-Board with S-Video input terminal.
- 2. Remove 6 screws (H).
- Then carefully remove the G and W-Boards with rear terminal.

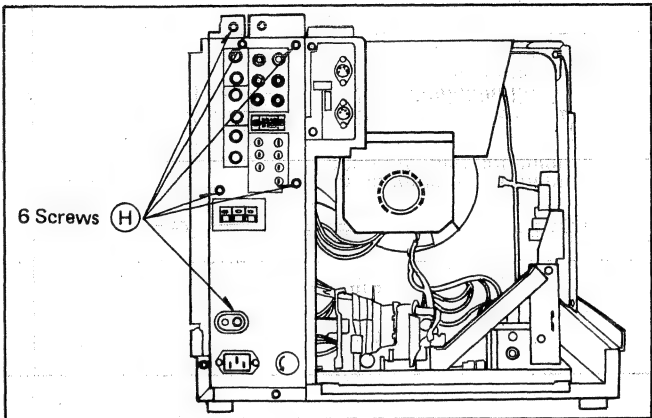


Fig. 8

7. REMOVAL OF A-BOARD (HOT AND COLD)

- 1. Remove 5 screws (I), and remove the reinforcing angle and A-Board holder.
- 2. Carefully slide the board toward you and remove the A-Board.

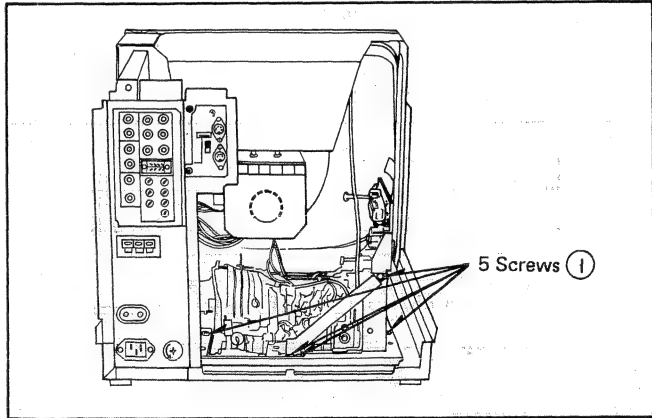


Fig. 9

8. REMOVAL OF C-BOARD (COLD)

- 1. Remove the A-Board.
- 2. Remove 2 screws (J).

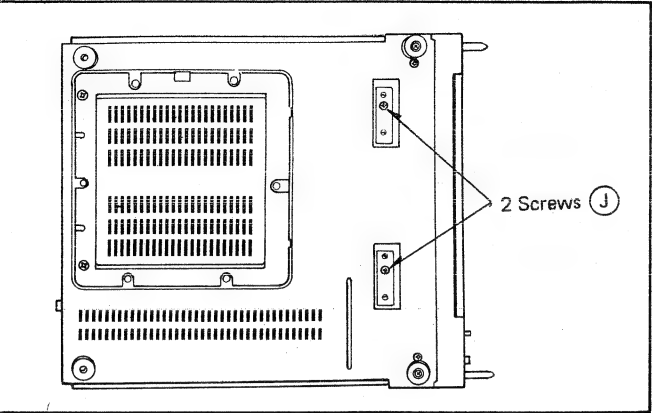


Fig. 10

- 3. Remove 4 control knobs.

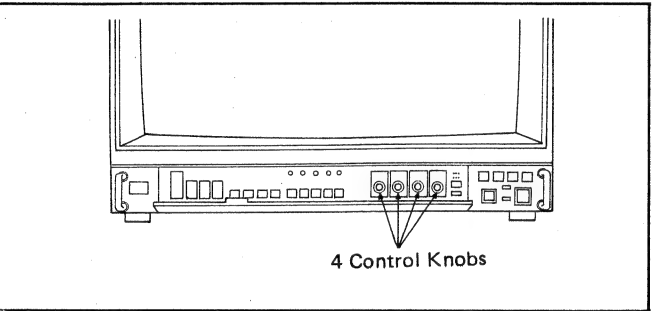


Fig. 11

- 4. Remove 3 screws (K).
Then carefully remove the C-Board.

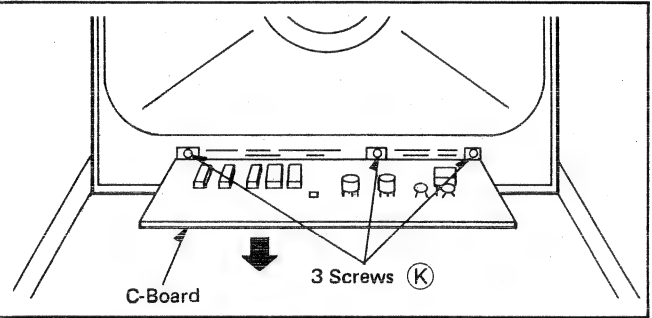


Fig. 12

9. REMOVAL OF D-BOARD (COLD)

- 1. Remove 2 screws (L).
Then carefully remove the D-Board.

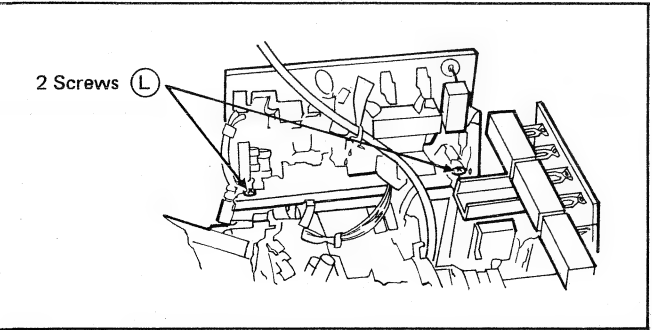
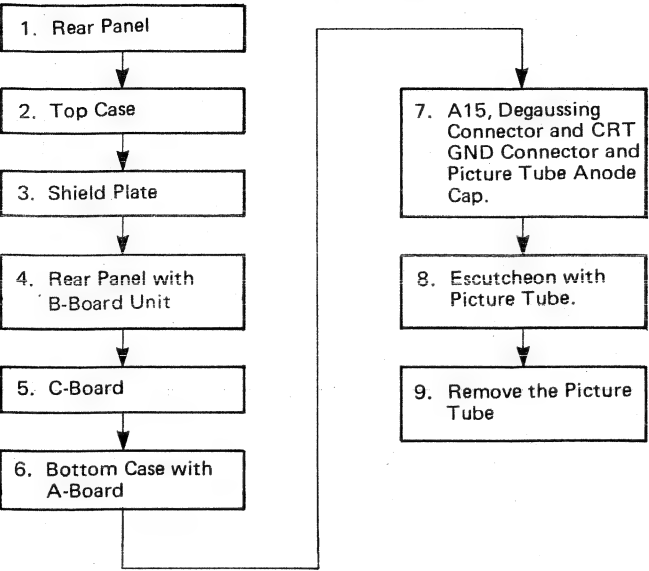


Fig. 13

10. REMOVAL OF PICTURE TUBE



- 1. Remove 4 screws (M).
- 2. Remove 2 screws (N) and remove the shield plate.
Then carefully remove the L (CRT)-Board.
- 3. Disconnect A15, Degaussing Connector and Picture Tube Anode Cap, and CRT GND connector.

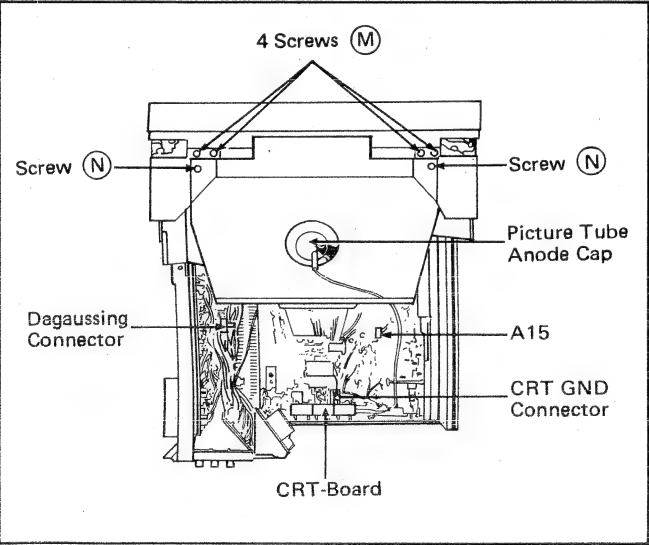


Fig. 14

- 4. Remove 4 screws (O).

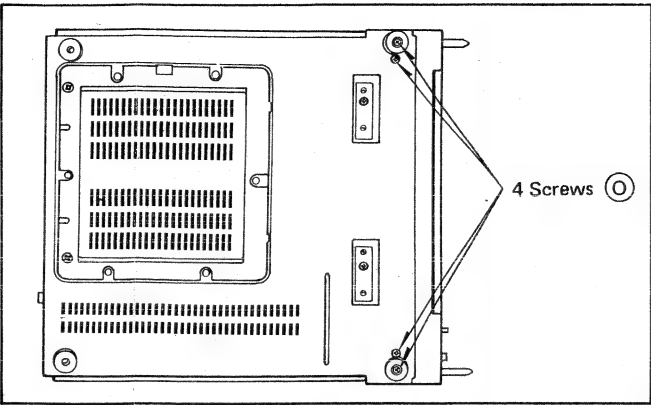


Fig. 15

- 5. Remove 2 screws (P).
Then carefully remove the Escutcheon with Picture Tube.

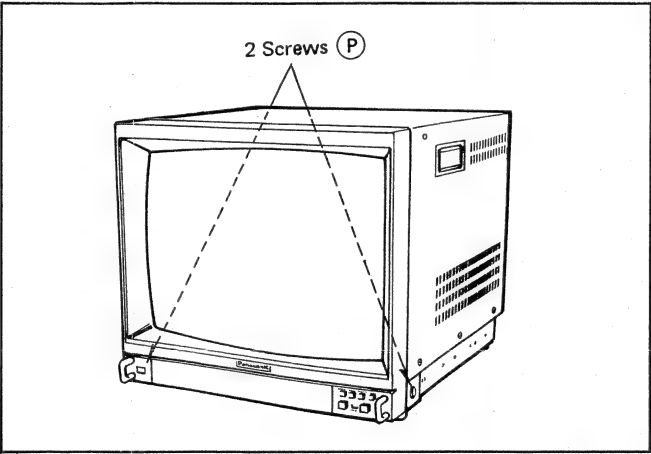


Fig. 16

- 6. Remove 4 screws (Q).
Then carefully lift top of picture tube.

Note: Place the cushion under the picture tube for not being damaged the CRT of the picture tube.

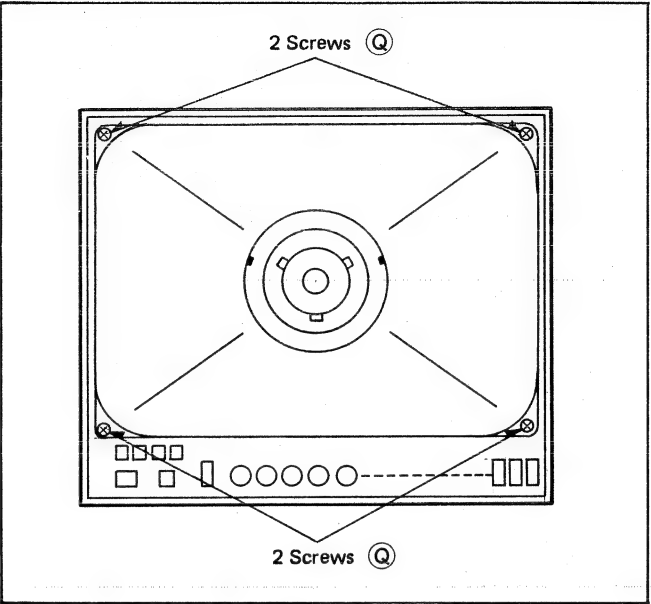


Fig. 17

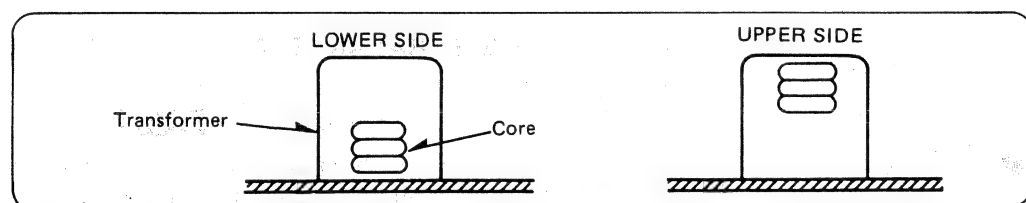
CAUTION FOR SERVICING

This model has a section that does not share a common sections are referred to as the HOT section and the earth with the power supply section. The different COLD section in the precautions below.

1. Do not touch the HOT section and the COLD section at the same time. You may receive an electric shock.
2. Do not short the HOT section to the COLD section. This could blow the fuse or even damage parts.

Note: (Application for both Field Alignment and General Alignment)

1. Use video pattern generator for following alignments. (Video input should read 1.0Vp-p.)
2. During alignment, use a non-metallic screwdriver to prevent an unexpected short circuit.
3. The transformer core which has two tuning peak points, should be adjusted at the lower position as below:



MEASUREMENTS AND ADJUSTMENT

B+ VOLTAGE (+100V) ADJUSTMENT

1. Connect an digital voltmeter between **TPD91** and **TPD5** (GND).
2. Apply a full field colour bar signal.
3. Adjust the R5631 (H-Hold) set it at a point where horizontal movement is stopped.
4. Adjust the R5633 (V-Hold) set it at a point where vertical movement is stopped.
5. Set the following controls and switches to the position indicated.
Brightness control (R5824) . . . fully counterclockwise
Service switch (S401) service
Set-up switch (SW5806) ON
Preset selector switch (SW5815) OFF
6. Adjust R806 (+B2 Adj.) so that the voltage **TPD91** becomes $103.0V \pm 0.5V$.
7. Return the controls and switches to their original position.

B+ VOLTAGE CONFIRMATION

1. Apply a full field colour bar signal.
 2. Adjust the R5631 (H-Hold) set it at point where horizontal movement is stopped.
 3. Adjust the R5633 (V-Hold) set it at a point where vertical movement stopped.
 4. Set the following controls and switches to the position indicated.
- Brightness control (R5824) fully counterclockwise
- Service switch (S401) service
- Set-up switch (SW5806) ON
- Preset selector switch (SW5815) OFF

3. Never measure the HOT section and the COLD section at the same time when using tools such as oscilloscopes or multimeters.
4. Always unplug the unit before beginning any operation such as removing the chassis.

5. Connect an digital voltmeter between each test point as follows.
6. Confirm the indicated test point for the specified voltage.

Test Point	Voltage
+B1 (TPD120 – TPD5 (GND))	160V ± 10V
+B3 (TPD24 – TPD5 (GND))	25.0V ± 2.0V
+B4 (TPB10 – TPD5 (GND))	14.0V $\pm \begin{smallmatrix} 1.0 \\ -0.5 \end{smallmatrix}$ V
+B5 (TPD12 – TPD5 (GND))	12.0V ± 0.5V


7. Return the controls and switches to their original position.

HIGH VOLTAGE CONFIRMATION


1. Set the following controls and switches to the position indicated.

Set-up switch (SW5806)	ON
Preset selector switch(SW5815)	OFF
Brightness control (R5824) . . .	fully counterclockwise
2. Apply a full field colour bar signal.
3. Adjust the R5631 (H-Hold) set it at a point where horizontal movement is stopped.
4. Adjust the R5633 (V-Hold) set it at a point where vertical movement is stopped.
5. Connect a high voltage meter (electrostatic type) to the anode for the picture tube.

6. Confirm the indicated for the specified voltage.

Switch Position 	Voltage
ON (Over Scan)	25.2 kV \pm 1.5 kV 1.2
OFF (Under Scan)	25.2 kV \pm 1.5 kV 1.2

H DELAY POSITION ADJUSTMENT

1. Apply a full field colour bar signal.
2. Connect a CH1 oscilloscope to **TPB4** and earth, and CH2 oscilloscope to IC601 (2 pin) and earth.
3. Set the oscilloscope to CHOP mode.
4. Set the H-Delay switch  (SW5812) to ON.
5. Adjust R5429 (H. Delay Position) so that the burst position becomes as shown in Fig. 1.

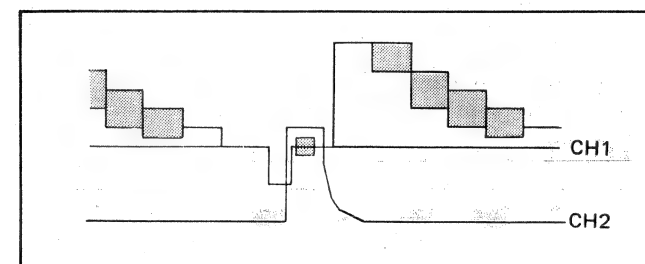


Fig. 1

6. Confirm that the screen is colour.
7. If screen is monochrome, turn R626 (Colour Sync.) left and/or right so that the colour picture is appeared.

4.43 MHz TRAP FILTER ADJUSTMENT

1. Apply a full field colour bar signal.
2. Connect an oscilloscope to **TPB7** and earth.
3. Set the following switches to the position indicated.
Trap filter selector switch (SW5808) OFF
Mode selector switch (SW5810) AUTO
4. Adjust L5004 to set 4.43 MHz sub carrier at the minimum amplitude as shown in Fig. 2.
5. Confirm that 4.43 MHz sub carrier portion of the magenta is less than 25mVp-p as shown in Fig. 2.

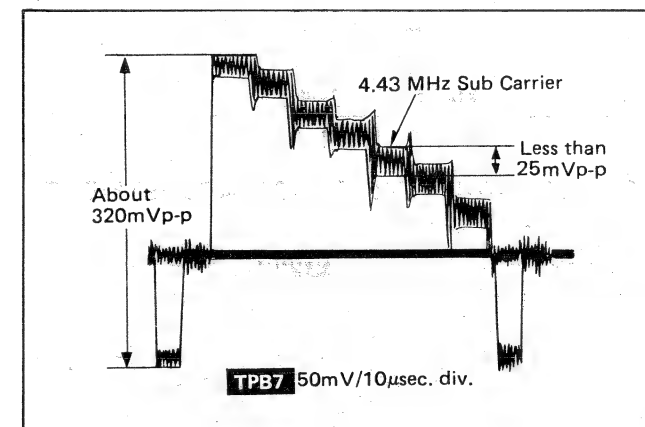


Fig. 2

APERTURE BALANCE ADJUSTMENT

1. Apply a black and white signal.
2. Connect an oscilloscope to **TPB8** and earth.
3. Set the following switches to the position indicated.
Trap filter selector switch (SW5808) ON
Mode selector switch (SW5810) AUTO
4. Adjust R326 (Aperture Balance) so that the waveform **TPB8** becomes as shown in Fig. 3.

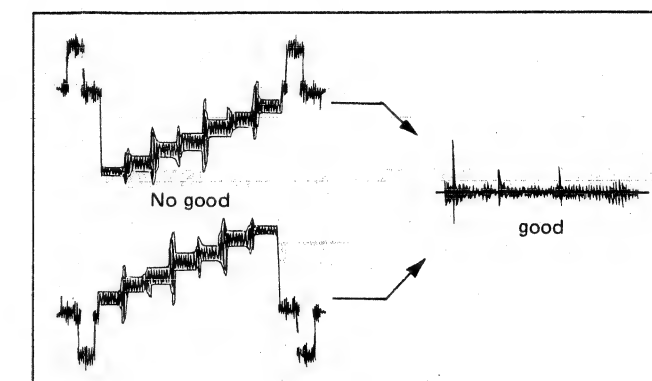


Fig. 3

APERTURE LEVEL ADJUSTMENT

1. Apply a CROSS-HATCH pattern signal.
2. Connect an oscilloscope to **TPB8** and earth.
3. Set the following control and switches to the position indicated.
Aperture control (R5814) fully counterclockwise
Trap filter selector switch (SW5808) ON
Mode selector switch (SW5810) AUTO
Preset selector switch (SW5815) OFF
4. Adjust R329 (Aperture Adj.) so that the **TPB8** becomes 350mVp-p \pm 20mVp-p as shown in Fig. 4.

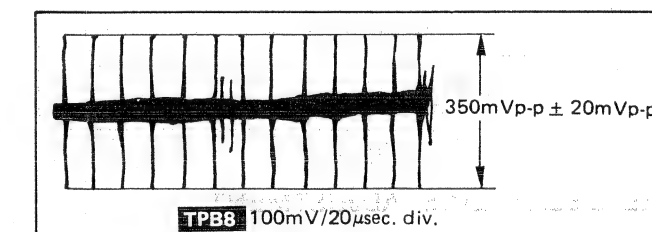


Fig. 4

Y (LUMINANCE) LEVEL ADJUSTMENT

1. Apply a full field colour bar signal.
2. Connect an oscilloscope to **TPB9** and earth.
3. Set the following control and switches to the position indicated.
Aperture control (R5814) fully counterclockwise
Trap filter selector switch (SW5808) ON
Mode selector switch (SW5810) AUTO
Preset selector switch (SW5815) OFF
4. Adjust R324 (Y-Level) so that the **TPB9** becomes $1.05V_{p-p} \pm 0.05V_{p-p}$ as shown in Fig. 5.

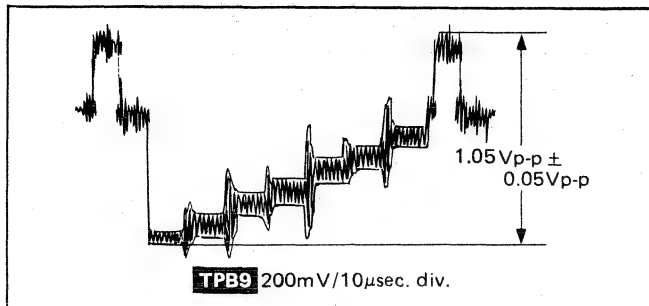


Fig. 5

- Turn the Aperture control (R5814) clockwise and confirm that the spike moves smoothly onto edge of the waveform.

COLOUR SYNCHRONIZING ADJUSTMENT

- Apply a fully field colour bar signal.
- Connect an oscilloscope to **TPB6** and earth.
- Set the following controls and switches to the position indicated.

Brightness control (R5824) fully clockwise
 Chroma control (R5804) fully clockwise
 Trap filter selector switch (SW5808) ON
 Mode selector switch (SW5810) AUTO
 Preset selector switch (SW5815) OFF
 Contrast control (R5819) fully clockwise

- Adjust R626 (Colour Sync.) so that the signal level "A" is 0Vp-p.

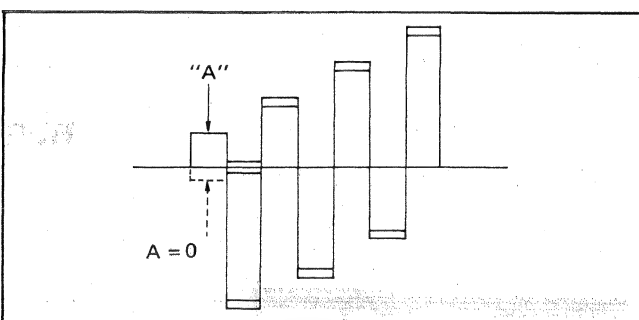


Fig. 6

PAL DELAY LINE ADJUSTMENT

- Apply full field colour bar signal.
- Connect an oscilloscope to **TPB6** and earth.
- Set the following controls and switches to the position indicated.

Chroma control (R5804) fully clockwise
 Contrast control (R5819) fully clockwise
 Brightness control (R5824) fully counterclockwise
 Preset selector switch (SW5815) OFF
 Trap filter selector switch (SW5808) ON
 Mode selector switch (SW5810) AUTO

- Adjust R614 (Delay Line) so that the signal level "A" becomes 0 as shown in Fig. 7.

- Adjust L607 so that the 1st. horizontal line signal and 2nd. horizontal line signal is matched.

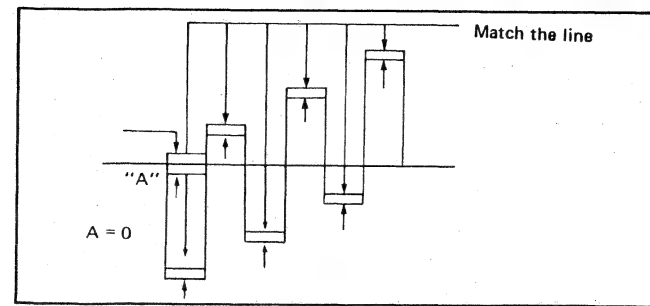


Fig. 7

SUB CHROMA ADJUSTMENT

- Apply a full field colour bar signal.
- Connect an oscilloscope to **TPB14** and earth.
- Set the following switches to the position indicated.

Trap filter selector switch (SW5808) ON
 Mode selector switch (SW5810) AUTO
 Preset selector switch (SW5815) OFF
 H-Delay switch ☐ (SW5812) OFF
 V-Delay switch ☐ (SW5813) OFF

- Adjust Chroma control (R5804) so that the waveform **TPB14** becomes as shown in Fig. 8.

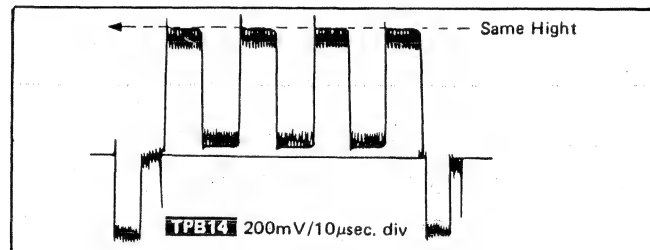


Fig. 8

- Disconnect an oscilloscope from **TPB14** and connect an oscilloscope to **TPB6**.
- Adjust R619 (Sub. Chroma) so that the **TPB6** becomes 1.0Vp-p ± 0.05Vp-p as shown in Fig. 9.

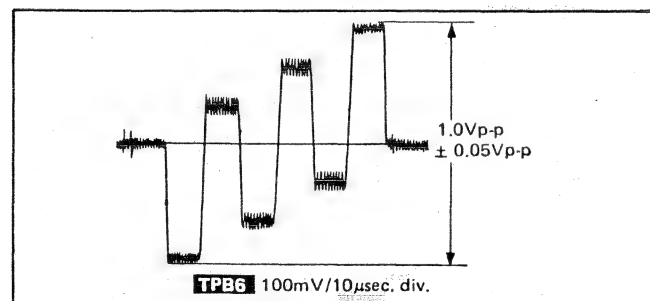


Fig. 9

COLOUR GAIN AND PHASE ADJUSTMENT

- Apply a full field colour bar signal.
- Connect an oscilloscope to **TPB6** and earth.
- Set the following control and switch to the position indicated.

Chroma control (R5804) . . . Step ① → ②
 Preset selector switch (SW5815) OFF

- Set Mode selector switch (SW5810) to the AUTO position.

- Record the waveform **TPB6**.
- Set Mode selector switch (SW5810) to the COLOUR position.
- Adjust R621 (Chroma Gain) so that the waveform at this point of time becomes equal to that recorded in Step 5 as shown in Fig. 10.
- Set Mode selector switch (SW5810) to the AUTO position.
- Confirm that the waveform at this point of time is equal to the waveform recorded in Step 7.

NOTE: In case a difference in the waveform is observed, repeat the adjustment described in Step 5 through 9.

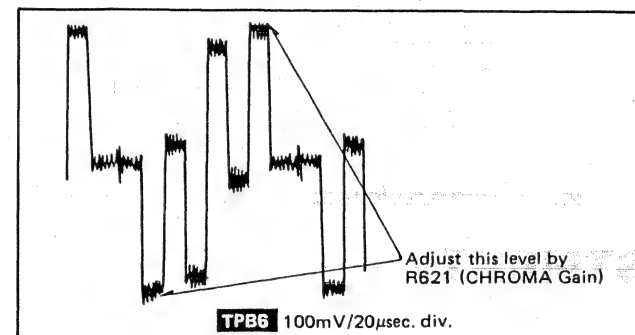


Fig. 10

- Disconnect an oscilloscope from **TPB6** and connect an oscilloscope to **TPB5**.
- Turn the Mode selector switch (SW5810) to AUTO and COLOUR several times. Confirm that there is no difference in waveform at each position. Also, while watching the display on the screen, confirm that there is no change in hue and saturation.

SUB COLOUR ADJUSTMENT

- Apply full field colour bar signal.
- Connect an oscilloscope to **TPB14** and earth.
- Set the following switches to the position indicated.

Trap filter selector switch (SW5808) ON
 Mode selector switch (SW5810) AUTO
 Preset selector switch (SW5815) OFF
 H-Delay switch ☐ (SW5812) OFF
 V-Delay switch ☐ (SW5813) OFF

- Adjust Chroma control (R5804) so that the waveform **TPB14** becomes as shown in Fig. 11.

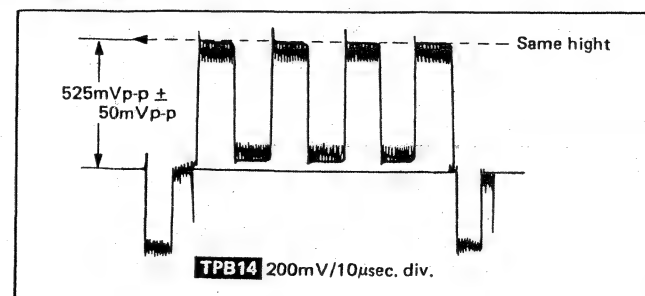


Fig. 11

- Set Chroma control (R5804) to fully clockwise position.
- Adjust R5106 (Sub. Colour) so that the waveform **TPB14** becomes 1.05 ± 0.05V as shown in Fig. 12.

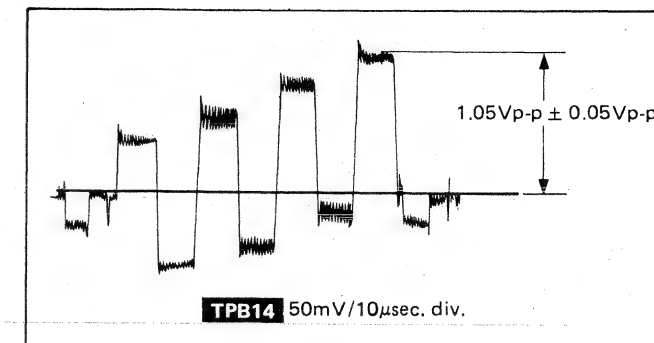


Fig. 12

R.G.B. BALANCE ADJUSTMENT

- Apply a full field colour bar signal.
- Connect an oscilloscope to **TPB12** and earth.
- Set the following switches to the position indicated.

Trap filter selector switch (SW5808) ON
 Mode selector switch (SW5810) MONO
 H-Delay switch ☐ (SW5812) OFF
 V-Delay switch ☐ (SW5813) OFF

- Measure and record the amplitude of the waveform **TPB12** as shown in Fig. 13.

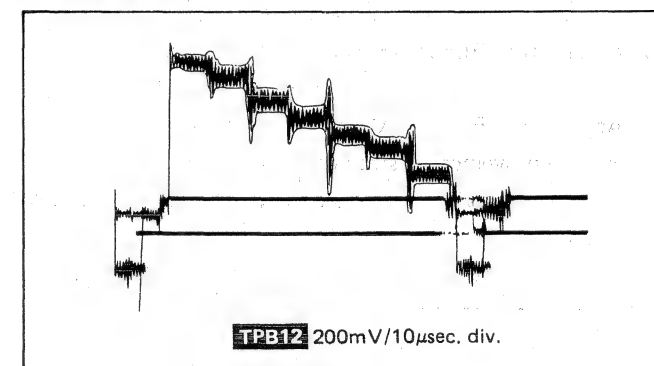


Fig. 13

- Disconnect an oscilloscope from **TPB12** and connect an oscilloscope to **TPB13**.
- Adjust R5115 (G-Level) so that the amplitude of **TPB13** becomes equal to the amplitude **TPB12** recorded in Step 4.
- Disconnect an oscilloscope from **TPB13** and connect and oscilloscope to **TPB14**.
- Adjust R5116 (B-Level) so that the amplitude of **TPB14** becomes equal to the amplitude **TPB12** recorded in Step 4.
- Confirm that the difference in amplitude among **TPB12**, **TPB13** and **TPB14** is within the range of ± 0.02Vp-p.

NOTE: If the difference in amplitude is more than ± 0.02Vp-p repeat the adjustments of Step 4 through 9.

H/V DELAY WHITE BALANCE ADJUSTMENT

1. Apply a full field colour bar signal.
2. Connect an oscilloscope to **TPB12** and earth.
3. Set the following switches to the position indicated.
Trap filter selector switch (SW5808) ON
Mode selector switch (SW5810) MONO
H-Delay switch ☐ (SW5812) ON
4. Adjust R5143 (R-Pulse Level) so that the waveform **TPB12** becomes as shown in Fig. 14.
5. Disconnect an oscilloscope from **TPB12** and connect an oscilloscope to **TPB13**.
6. Adjust R5142 (G-Pulse Level) so that the waveform **TPB13** becomes as shown in Fig. 14.
7. Disconnect an oscilloscope from **TPB13** and connect an oscilloscope to **TPB14**.
8. Adjust R5144 (B-Pulse Level) so that the waveform **TPB14** becomes as shown in Fig. 14.

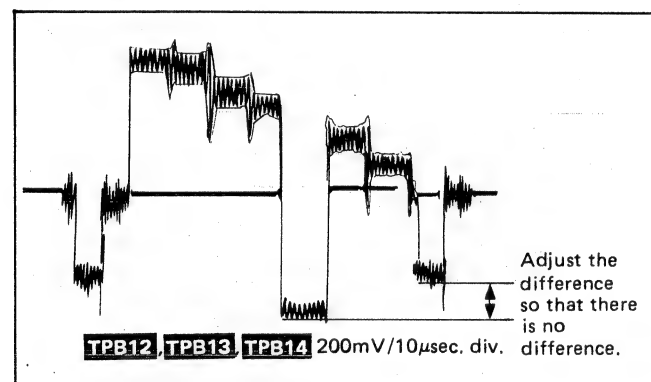


Fig. 14

9. While watching the display on the screen, confirm that there is no significant change in the white balance on the entire screen when the H-Delay switch ☐ (SW5812) is turn ON and OFF several times.

IC GAIN ADJUSTMENT

1. Apply a window pattern signal.
2. Connect a CH1 of oscilloscope to **TPB13** and earth.
3. Connect a CH2 of oscilloscope to **TPB12** and earth.
4. Set the following controls switches to the position indicated:
Contrast control (R5819) Centre
Preset selector switch (SW5815) OFF
Brightness control (R5824) Centre
H-Delay switch ☐ (SW5812) OFF
V-Delay switch ☐ (SW5813) OFF
5. Confirm that amplitude of waveform **TPB12**, **TPB13** and **TPB14** is the same.
6. Disconnect an oscilloscope from **TPB12** and **TPB13**, and connect an oscilloscope to **TP47G** and **TP47R**.
7. Adjust R5542 (R. IC BIAS) so that amplitude of waveform **TP47G** and **TP47R** is the same ($\pm 10\text{mVp-p}$).
8. Set Contrast control (R5819) to fully clockwise position.

9. Adjust R5577 (R. IC GAIN) so that amplitude of waveform **TP47G** and **TP47R** is the same ($\pm 10\text{mVp-p}$).
10. Set Contrast control (R5819) to centre position, and then confirm that amplitude of waveform **TP47G** and **TP47R** is the same ($\pm 10\text{mVp-p}$).
11. Set Contrast control (R5819) to fully counterclockwise position, and then confirm that amplitude of waveform **TP47G** and **TP47R** is the same.
12. If the same amplitude cannot be obtained in step 10 or step 11, then repeat step 7 through 11.
13. Connect a CH1 of oscilloscope to **TP47B** and earth.
14. Set Contrast control (R5819) to centre position.
15. Adjust R5546 (B. IC BIAS) so that amplitude of waveform **TP47G** and **TP47B** is the same ($\pm 10\text{mVp-p}$).
16. Set Contrast control (R5819) to fully clockwise position.
17. Adjust R5579 (B. IC GAIN) so that amplitude of waveform **TP47G** and **TP47B** is the same ($\pm 10\text{mVp-p}$).
18. Set Contrast control (R5819) to centre position, and then confirm that amplitude of waveform **TP47G** and **TP47B** is the same ($\pm 10\text{mVp-p}$).
19. Set Contrast control (R5819) to fully counterclockwise position, and then confirm that amplitude of waveform **TP47G** and **TP47B** is the same ($\pm 20\text{mV}$).
20. If the same amplitude cannot be obtained in step 18 or step 19, then repeat step 14 through 19.

PbPr LEVEL ADJUSTMENT

1. Connect the Y loop through output to **Pb** input terminal and **Pr** loop through output to **Pr** input terminal as shown in Fig. 15.

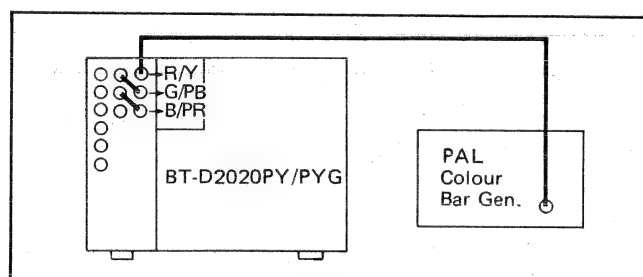


Fig. 15

2. Set the Input selector switch (SW5801) to RGB (YPbPr) position.
3. Connect the oscilloscope to Y input terminal and set the output signal levels of PAL colour bar signal generator become "A" = $0.525 \pm 0.025\text{Vp-p}$ and "B" = $0.300 \pm 0.015\text{Vp-p}$ as shown in Fig. 16.
4. Disconnect the oscilloscope from Y input terminal and connect its to **TPPR**.
5. Adjust R5256 (PR Level) so that the signal level "A" becomes $2.00\text{Vp-p} \pm 0.10\text{Vp-p}$.
6. Disconnect the oscilloscope from **TPPR** and connect its **TPPB**.

7. Adjust R5265 (PB Level) so that the signal level "A" becomes $1.82\text{Vp-p} \pm 0.10\text{Vp-p}$.

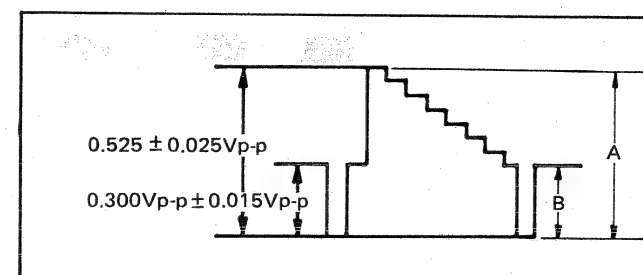


Fig. 16

COLOUR PURITY ADJUSTMENT

1. Operate the monitor over 30 minutes.
2. Fully degauss the picture tube by using an external degaussing coil.
3. Apply a cross hatch pattern signal and adjust roughly the static convergence magnets.
4. Apply a video signal of white full field.
5. Set R-Cut OFF switch (SW5802) and B-Cut OFF switch (SW5804) to ON position.
6. Loosen the deflection yoke clamp screw and move the deflection yoke as close to the purity magnets as possible.
7. Remove the silicone sealer and adjust the purity magnets so that a green field is obtained at the centre of the screen as shown in Fig. 17.

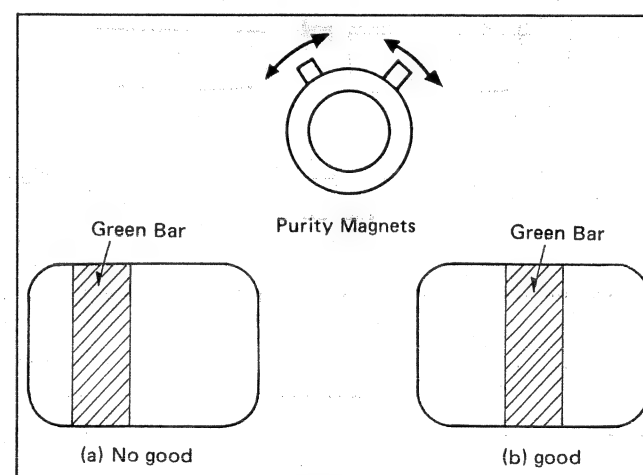


Fig. 17

8. Slowly position the deflection yoke and set it where a uniform green field is obtained.
9. Set R-Cut OFF switch (SW5802) and B-Cut OFF switch (SW5804) to OFF position.
10. Adjust roughly the Low Light controls (on the CRT P.W.B.) and make sure that a uniform white field is obtained.
11. Tighten the deflection yoke clamp screw.

CONVERGENCE ADJUSTMENT

1. Fully degauss the picture tube by using an external degaussing coil.
2. Input the cross hatch pattern of R and B with the signal generator.
3. Match the R and B at screen centre with four pole magnet. (Rotate the two ring magnets to move the red, blue dots circularly in the opposite direction.)
4. Input the cross hatch pattern of R.G.B. with the signal generator.
5. At the screen centre, match R and B to G with the six-pole magnet.
6. Fine tune the deflection yoke location to get good convergence on the whole screen.
7. If the convergence on the fringe area is bad, attach small magnets at the four corners of deflection yoke to improve the convergence.

Note: Caution for installing small magnets.

Keep more than 20 mm distance from anode cap.

Don't put them on top of one another.

Don't place them on warning or high voltage caution label.

8. After convergence adjustment, recheck purity. In case purity is no good, go back to step 7 the procedure for purity adjustment, and re-adjust the purity.
9. Repeat the above procedure several times to try the best purity and convergence.

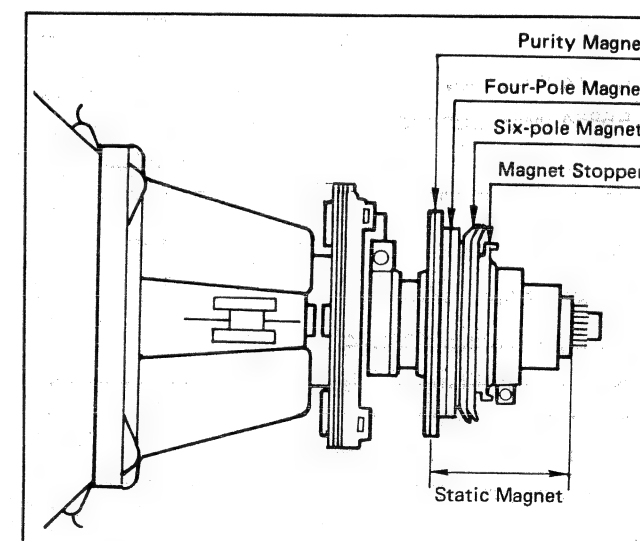


Fig. 18

HORIZONTAL HOLD AND VERTICAL HOLD ADJUSTMENT

1. Apply a mono scope pattern signal.
2. Connect **TPD5** and **TP33** together using clip lead jumper.
3. Adjust R5631(H-Hold) and set it at a point where horizontal movement is stopped.
4. Remove the clip lead jumper.
5. Remove the coupler A17 from A-Board and confirm that V-Hold runs.
6. Apply a frequency counter to **TP82**.
7. Adjust R5633 (V-Hold) and set it at a point where it indicates the 46.3 ± 0.5 Hz.
8. Insert the coupler A17 to A-Board and confirm that V-Hold does not run.

CRT CUT OFF ADJUSTMENT

1. Apply full field colour bar signal.
2. Set the following controls and switches to the position indicated.

R-Drive (R5827)	} (On the Front Panel) Centre
B-Drive (R5835)	
R-Screen (R5829)	
G-Screen (R5833)	
B-Screen (R5837)	

R363 (R-Sub. Screen) . . . Step ① → ②	(bottom view)
R364 (G-Sub. Screen) . . . Centre	
R365 (B-Sub. Screen) . . . Step ③ → ④	(bottom view)

R5544 (Max. Brightness)	} Centre
R5864 (Max. Contrast)	

R5595 (R-Sub. Drive)	Centre
	30°
	(top view)

R5597 (B-Sub. Drive)	Center
	30°
	(top view)

Brightness control (R5824)	Centre
Screen control (on the F.B.T.)	fully clockwise
Set-up switch (SW5806)	ON
Preset selector switch (SW5815)	OFF
Service switch (S401)	SERVICE

3. Slowly turn the Screen control (on the F.B.T.) counter-clockwise to the point where one of the R,G,B beams just appears on the picture tube.
4. Connect a test point (**TPL1** , **TPL2** or **TPL3**) corresponding to the colour emitted in Step 3 with the oscilloscope.
5. Adjust Brightness control (R5824) and R5544 (Max. Brightness) becomes 108V as shown in Fig. 19.

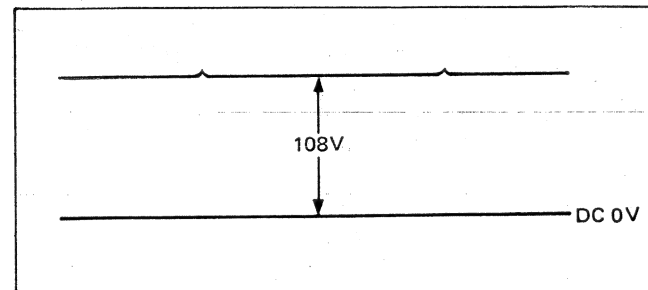


Fig. 19

6. Adjust Screen control (on the F.B.T.) so that the colour adjusted to 108V can shine faintly.
7. Slowly rotate the Semi-fixed control corresponding to the residual non-luminous colours clockwise until the line turns white. (from the bottom side).

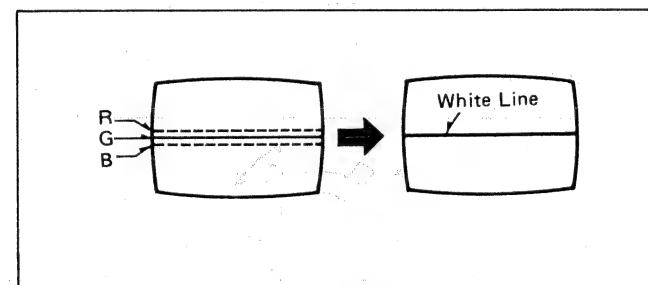


Fig. 20

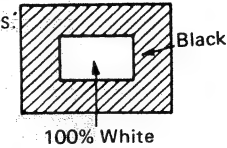
8. Set the following switches to the position indicated.

Set-up switch (SW5806)	OFF
Service switch (S401)	NORMAL
Mode selector switch (SW5810)	MONO
9. Confirm that no remarkable gap of white tone balance is found in a black-and-white signal.

WHITE BALANCE ADJUSTMENT

1. Operate the monitor over 30 minutes.
 2. Apply a window pattern signal.
 3. Set the following controls and switches to the position indicated.

Contrast control (R5819)	fully clockwise
R5864 (Max. Contrast)	Centre
Brightness control (R5824)	fully clockwise
H-Delay switch <input type="checkbox"/> (SW5812)	OFF
V-Delay switch <input type="checkbox"/> (SW5813)	OFF
 4. Fully degauss the picture tube by using an external degaussing coil.
 5. Secure the light receiving part of a TV-colour analyzer (MINOLTA) at the screen centre.
 6. Turn Set-up switch (SW5806) to ON.
 7. Adjust R5544 (Max. Brightness) to set the Max. Brightness to 1.5 ± 0.1 ft-L.
 8. Adjust R363 (R. Sub. Screen) to the set $x = 0.315 \pm 0.01$, $y = 0.325 \pm 0.01$, Temperature of adjusted colour = 6500°K .
 9. Apply a window pattern signal.
 10. Adjust R5864 (Max. Contrast) to set the luminance to 78.0 ± 0.1 ft-L.
 11. Adjust R5595 (R. Sub. Drive), R5597 (B. Sub. Drive) to set the $x = 0.315 \pm 0.01$, $y = 0.325 \pm 0.01$.
- Note:** Since the adjustments of Steps 7 through 11 have mutual influences, be sure to repeat the follow-up adjustment.



H/V DELAY LOW LIGHT ADJUSTMENT

1. Operate the monitor over 30 minutes.
2. Apply a Black signal.
3. Set the following control and switches to the position indicated.

Contrast control (R5819)	fully clockwise
H-Delay switch <input type="checkbox"/> (SW5812)	OFF
V-Delay switch <input type="checkbox"/> (SW5813)	OFF
Preset selector switch (SW5815)	OFF
4. Fully degauss the picture tube by using an external degaussing coil.
5. Secure the light receiving part of a TV colour analyzer (MINOLTA) at the screen centre and turn V-Delay switch ☐ (SW5813) to ON.
6. Adjust Brightness control (R5824) to set the luminance (Low Light) to 1.5 ± 0.1 ft-L.
7. Confirm that the $x = 0.315 \pm 0.01$, $y = 0.336 \pm 0.01$ and $Y = 1.5 \pm 0.1$ ft-L.
8. Set V-Delay switch ☐ (SW5813) to ON position.
9. Adjust R5142 (G-Pulse Level), R5143 (R-Pulse Level), R5144 (B-Pulse Level) to set the $x = 0.315 \pm 0.01$, $y = 0.325 \pm 0.02$.

VERTICAL LINEARITY ADJUSTMENT

1. Apply a CROSS-HATCH pattern signal.
2. Set Underscan switch ☐ (SW5811) to OFF position.
3. Adjust the R453 (Vertical Linearity Control) to each line is the same distance as shown in Fig. 21.

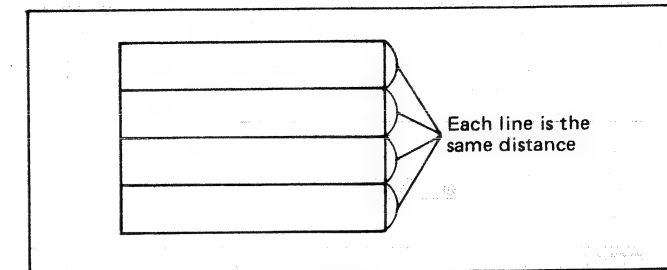


Fig. 21

PINCUSHION ADJUSTMENT

1. Apply a CROSS-HATCH pattern signal.
2. Set Underscan switch ☐ (SW5811) to ON position.
3. Adjust the R768 (Side Pincushion Control) so that the both of the side vertical lines are straight as shown in Fig. 22.

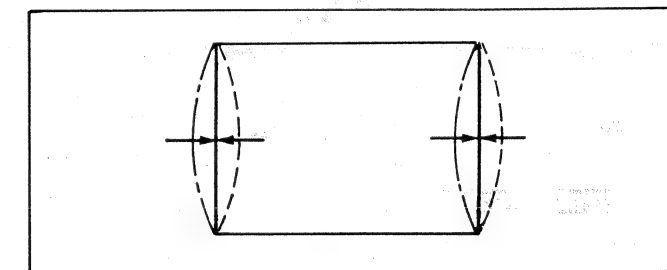


Fig. 22

V-DELAY POSITION ADJUSTMENT

1. Apply a full field colour bar signal.
2. Set the following switches to the position indicated.

Underscan switch <input type="checkbox"/> (SW5811)	OFF
V-Delay switch <input type="checkbox"/> (SW5813)	ON
3. Adjust R5440 (V-Delay Position) so that the displayed on the screen becomes as shown in Fig. 23.

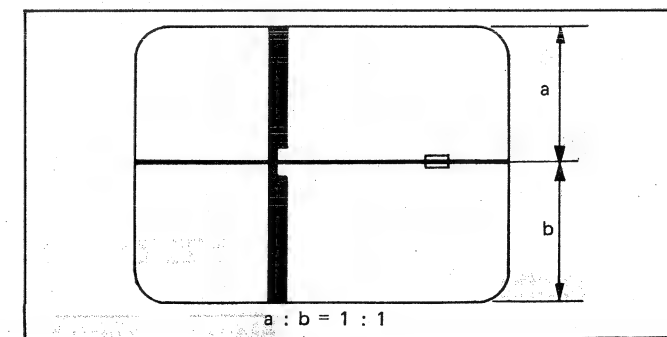


Fig. 23

A/B SPLIT POSITION ADJUSTMENT

1. Apply a full field colour bar signal to the LINE A IN terminal on the rear panel.
2. Apply a full field colour bar signal to the LINE B IN terminal on the rear panel.
3. Set the following switches to the position indicated.
 H-Delay switch ☐ (SW5812) OFF
 V-Delay switch ☐ (SW5813) OFF
 Underscan switch ☒ (SW5811) OFF
 Sync. selector switch (SW5807) INT
 A/B Split selector switch (SW5805) OFF
4. Set Sync. selector switch (SW5807) to the EXT. position.
5. Confirm that there is no difference in screen.
6. Set Sync. selector switch (SW5807) to the INT. position.
7. Set A/B split selector switch (SW5805) to ON position.
8. Adjust R5991 (A/B split position) so that the dividing line on the screen becomes a half and half as shown in Fig. 24.

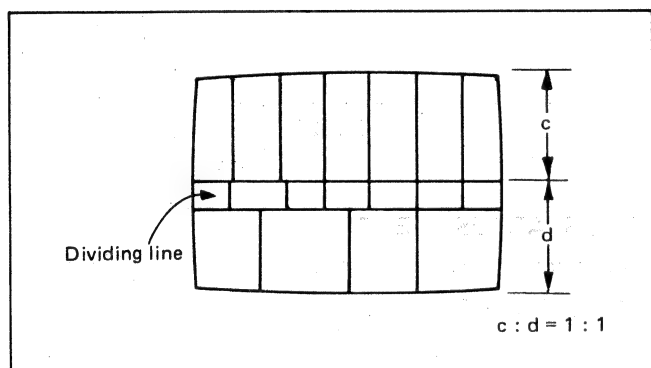


Fig. 24

S-VIDEO CHROMA ADJUSTMENT

1. Apply a full field colour bar signal to the LINE A IN terminal on the rear panel.
2. Apply a Y/C signal (full field colour bar) to the S-Video IN terminal on the rear panel.
3. Connect an oscilloscope to **TPB6** and **TPB11** (earth).
4. Set the following controls and switch to the position indicated.
 Chroma control (R5804) fully clockwise
 Preset selector switch (SW5815) OFF
 Mode selector switch (SW5810) COLOUR
 8P/S-Video, selector switch (SW5201) 75Ω
5. Set Input selector switch (SW5801) to LINE A position.
6. Measure and record the amplitude of the waveform **TPB6** as shown in Fig. 25.

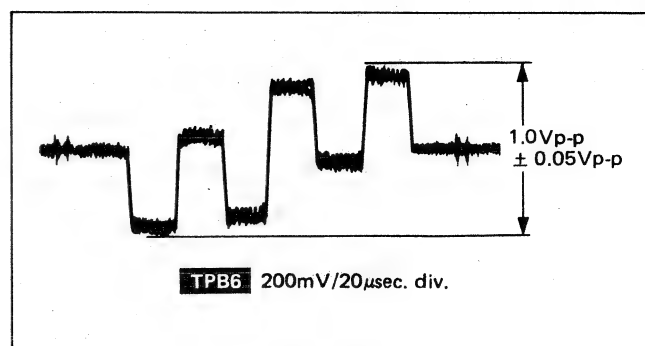


Fig. 25

7. Set Input selector switch (SW5801) to VTR position.
8. Adjust R5216 (S-Video Chroma) so that the amplitude of **TPB6** becomes equal to that of Step 6.
9. Turn Input selector switch (SW5801) to LINE A and VTR several times. Confirm that there is no difference in waveform at each position, also, while watching the display on the screen, confirm that there is no change in chroma.

YPBPR CHROMA ADJUSTMENT

1. Connect the oscilloscope to **TPB14**.
2. Set the YPBPR/RGB selector switch (SW5602) to YPBPR position and Chroma level 100/75 selector switch (SW5601) to 100 position.
3. Supply YPBPR component signal from signal generator or MII video tape recorder/player to YPBPR/RGB input.
4. Adjust R5282 (100 Chroma) so that the signal levels
5. Set the Chroma level 100/75 selector switch (SW5601) to 75 position.
6. Adjust R5285 (75 Chroma) so that the level (a) becomes as shown in Fig. 26 (B).

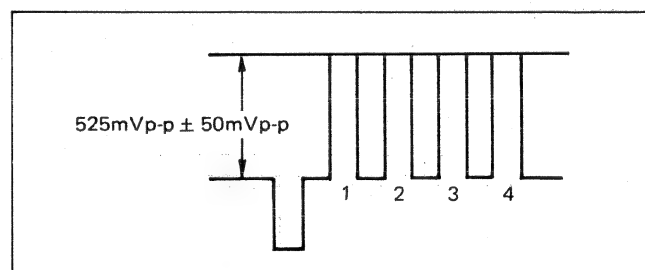


Fig. 26 (A)

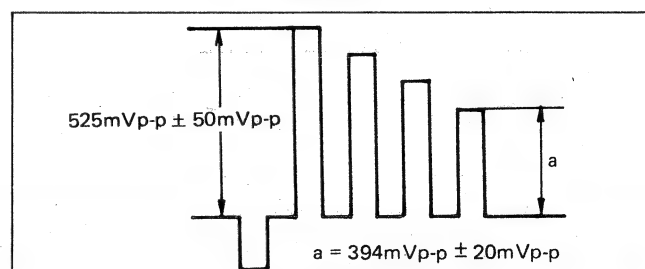
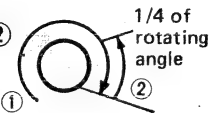


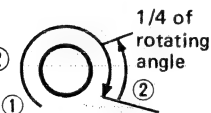
Fig. 26 (B)

PRESET ADJUSTMENT

- 1. Apply a SMPTE colour bar signal.
- 2. Fully degauss the picture tube by using an external degaussing coil.
- 3. Set Preset selector switch (SW5815) to ON position.

Preset Contrast (R5817) . . Step ①→② 

Preset Brightness (R5822) Centre

Preset Chroma (R5802) . . Setp ①→② 

- Underscan switch ☐ (SW5811) OFF
- Preset aperture (R5812) fully counterclockwise
- Blue signal only switch (SW5809) ON
- Trap filter selector switch (SW5808) ON
5. Adjust Preset chroma (R5802) so that the luminance at SMPTE colour bar pattern (on the displayed becomes Fig. 27.

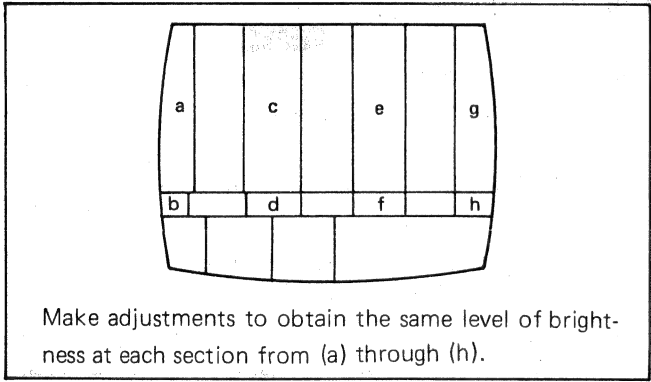


Fig. 27

6. Set Blue signal only switch (SW5809) to OFF position.
7. Adjust Brightness control (R5824) so that the brightness at SMAPTE colour bar pattern (on the displayed) becomes Fig. 28.

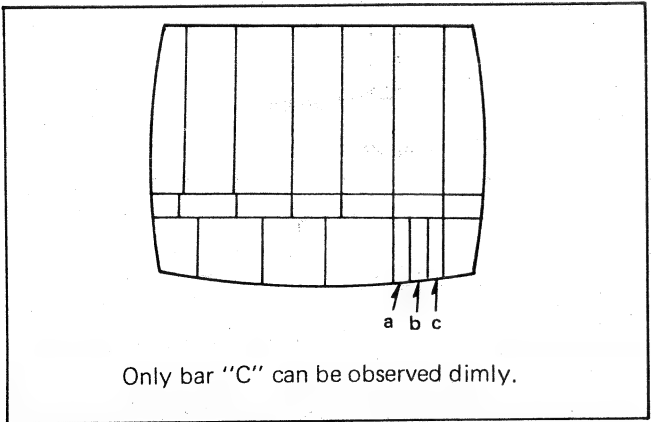


Fig. 28

8. Apply a window pattern signal.
9. Set the beam receiving part of TV-Colour analyzer (MINOLTA) to the window.
10. Adjust Preset contrast (R5817) to set the luminance to the 35 ft-L \pm 1.0 ft-L.
11. Connect the positive lead of a DC ammeter to **TPD1** (+), and the negative lead to **TPD2** (-).
12. Confirm so that the DC ammeter is within a range of $250\mu A \pm 65\mu A$.
13. Apply a cross hatch pattern signal.
14. Connect an oscilloscope to **TPB9** and **TPB11** (each).
15. Adjust Preset aperture (R5812) so that the **TPB9** becomes $0.85Vp-p \pm 0.05Vp-p$ as shown in Fig. 29.

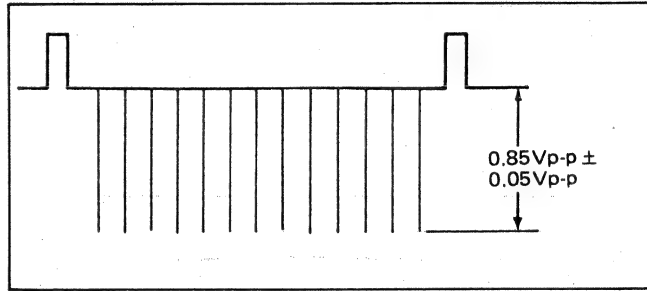
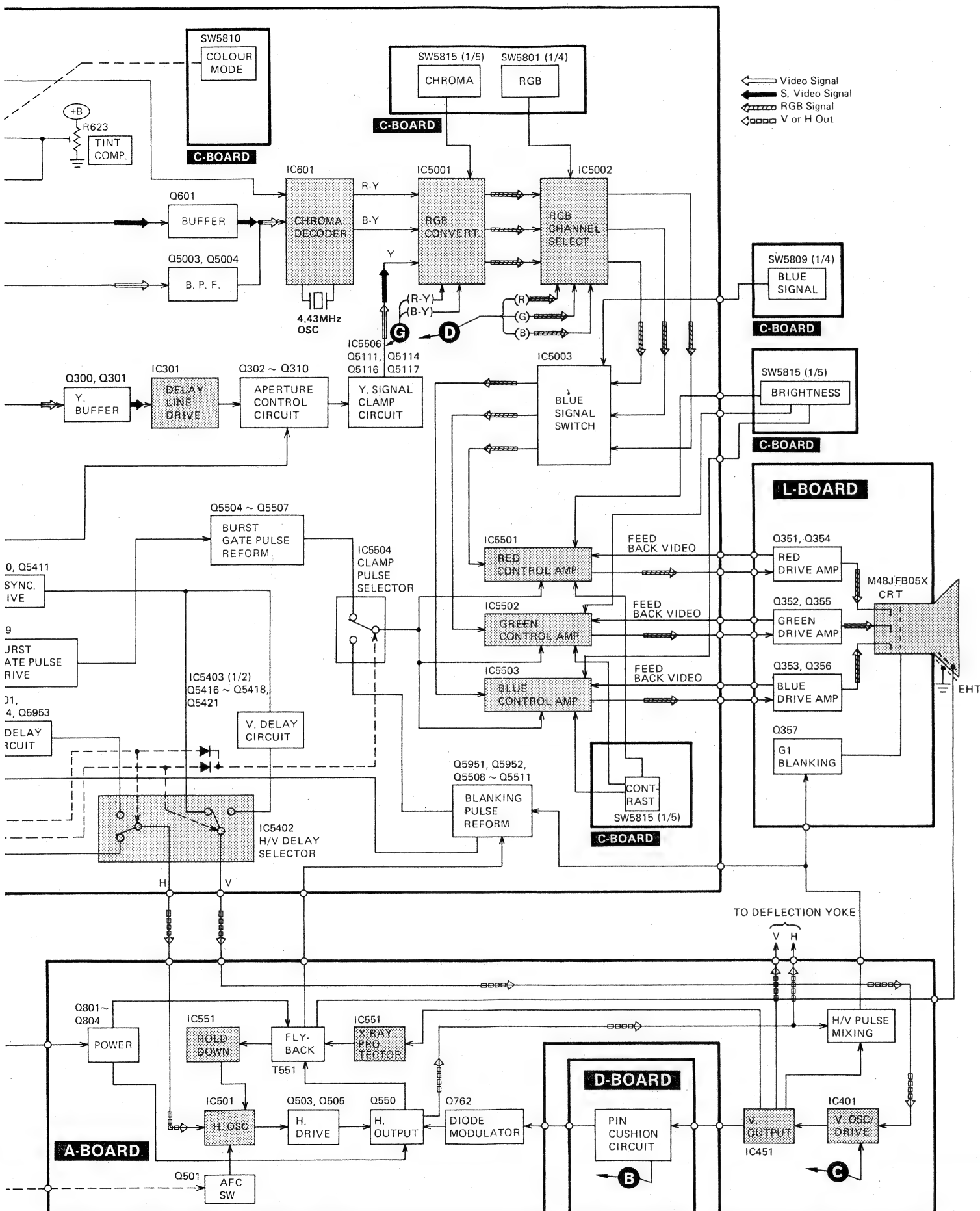


Fig. 29

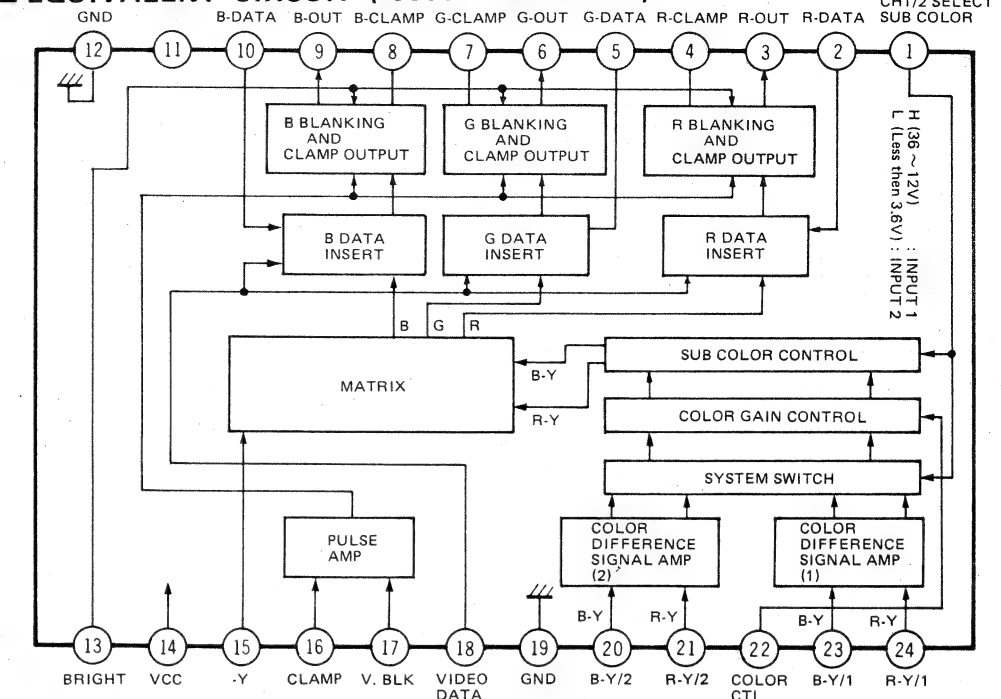
FOCUS ADJUSTMENT

Adjustment the Focus control (on the FBT) to obtain a sharpest and clearest picture.

EQUIVALENT CIRCUIT AND FUNCTION OF TERMINAL



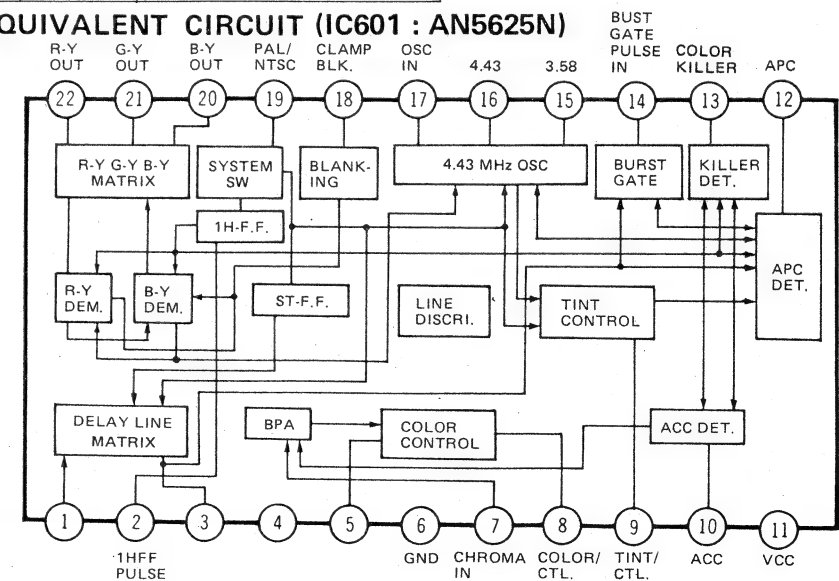
■ EQUIVALENT CIRCUIT (IC5001 : TA7676AP)



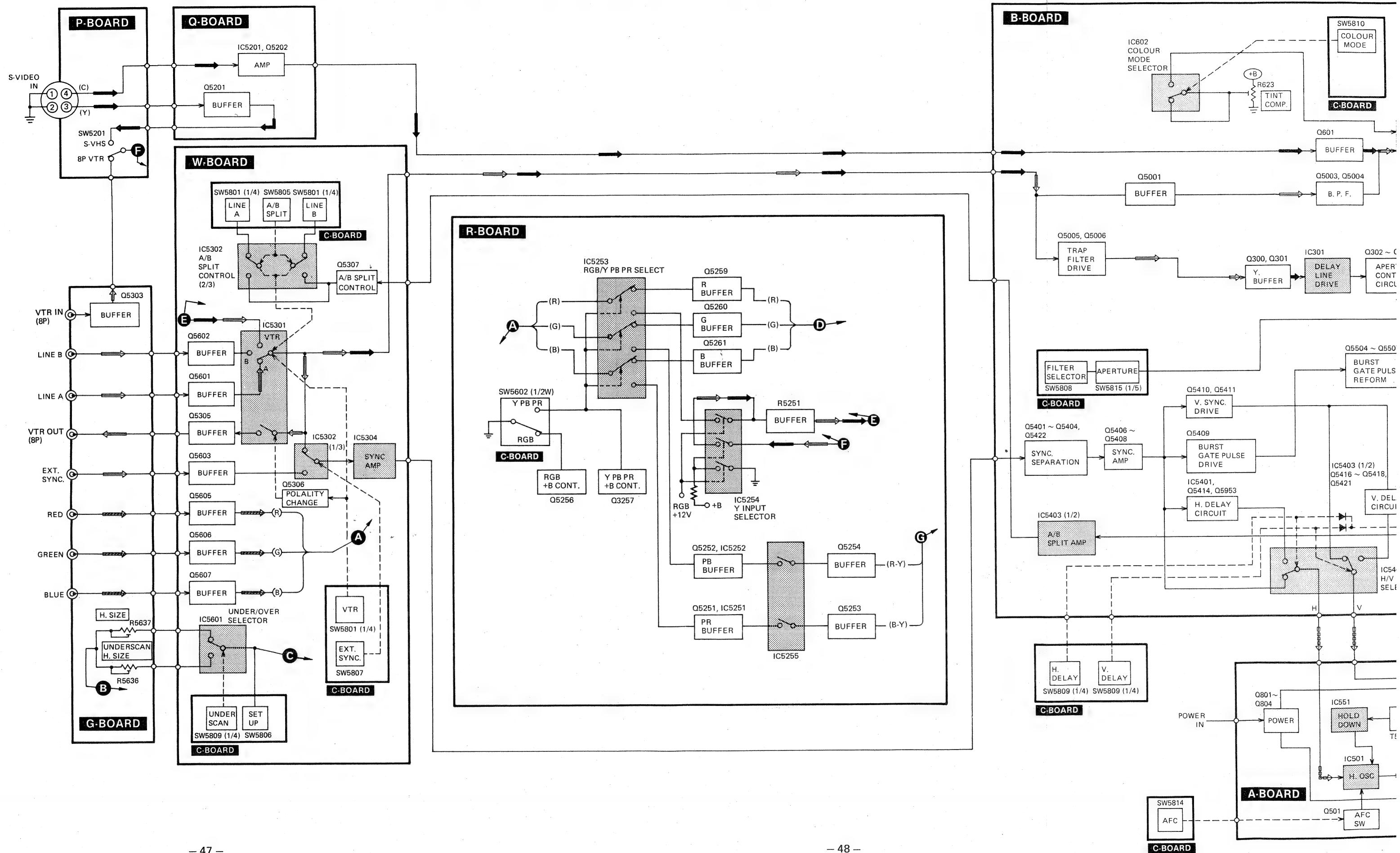
■ FUNCTION OF TERMINAL (IC5001 : TA7676AP)

Pin No.	Mark	Function	Pin No.	Mark	Function
1	CH1/CH2 SELECT SUB COLOR	CH1/CH2 select pulse input terminal.	13	BRIGHT	Not used.
			14	VCC	Apply +12V.
2	R-DATA	Not used.	15	—Y	—Y signal input terminal.
3	R-OUT	R-signal output terminal.	16	CLAMP	Blanking pulse input terminal.
4	R-CLAMP	R-signal clamping terminal.	17	V. BLK	Not used.
5	G-DATA	Not used.	18	VIDEO/DATA	GND terminal.
6	G-OUT	G-signal output terminal.	19	GND	GND terminal.
7	G-CLAMP	G-signal clamping terminal.	20	B-Y/2	Difference signal (B-Y/2) input terminal.
8	B-CLAMP	B-signal clamping terminal.	21	R-Y/2	Difference signal (R-Y/2) input terminal.
9	B-OUT	B-signal output terminal.	22	COLOR/CTL	Color control voltage input terminal.
10	B-DATA	Not used.	23	B-Y/1	Difference signal (B-Y/1) input terminal.
11	NC	Not used.	24	R-Y/1	Difference signal (R-Y/1) input terminal.
12	GND	GND terminal.			

■ EQUIVALENT CIRCUIT (IC601 : AN5625N)

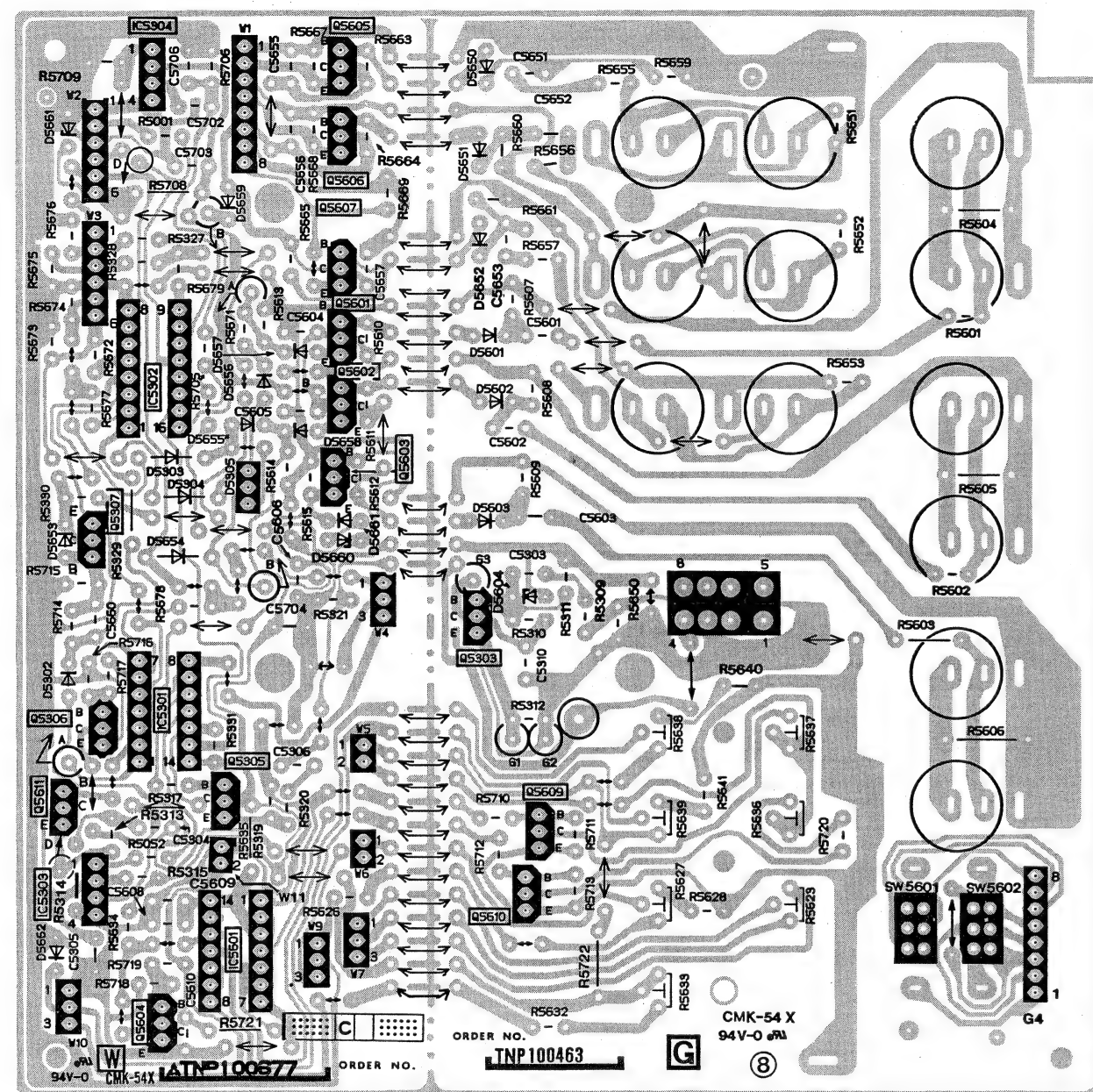


BLOCK DIAGRAM



W-BOARD : TNP100677BB
SIGNAL OUT CIRCUIT

G-BOARD : TNP100463BB
REAR TERMINAL CIRCUIT



W-BOARD	
Integrated Circuit	
IC5301	B-1
IC5302	C-1
IC5303	A-1
IC5304	C-1
IC5601	A-1
Transistor	
Q5305	A-1
Q5306	B-1
Q5307	B-1
Q5601	C-2
Q5602	B-2
Q5603	B-2
Q5604	A-1
Q5605	C-2
Q5606	C-2
Q5607	C-2
Q5611	A-1

ADDRESS INFORMATION

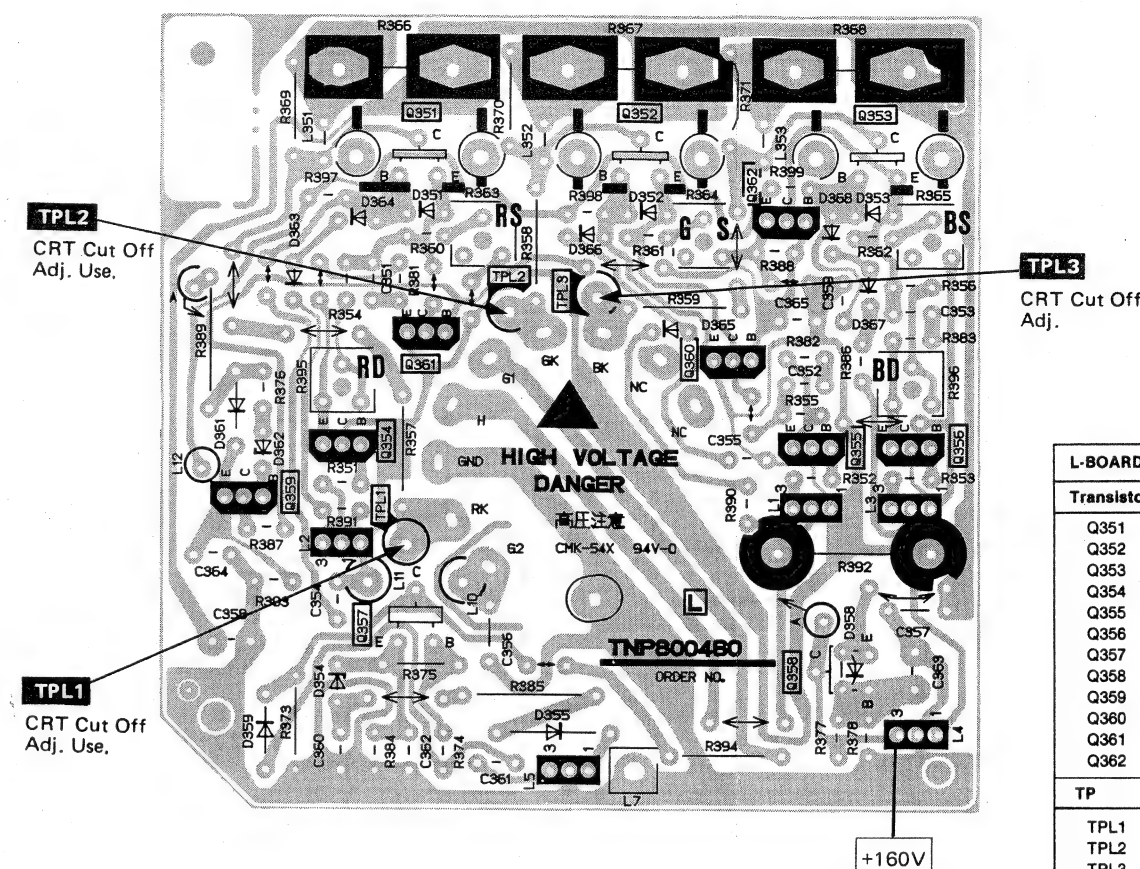
G-BOARD	
Transistor	
Q5303	B-2
Q5609	A-2
Q5610	A-2
VR	
R5623	A-3
R5627	A-3
R5633	A-3
R5636	A-3
R5637	B-3
R5638	B-3
R5639	A-3

ADDRESS INFORMATION

D-BOARD	
Integrated Circuit	
IC761	A-3
Transistor	
Q580	B-1
Q581	B-2
Q751	B-2
Q755	A-3
Q756	B-3
Q757	B-3
Q758	A-3
VR	
R768	B-2
TP	
TPM1	B-2
TPM2	A-3

ADDRESS INFORMATION

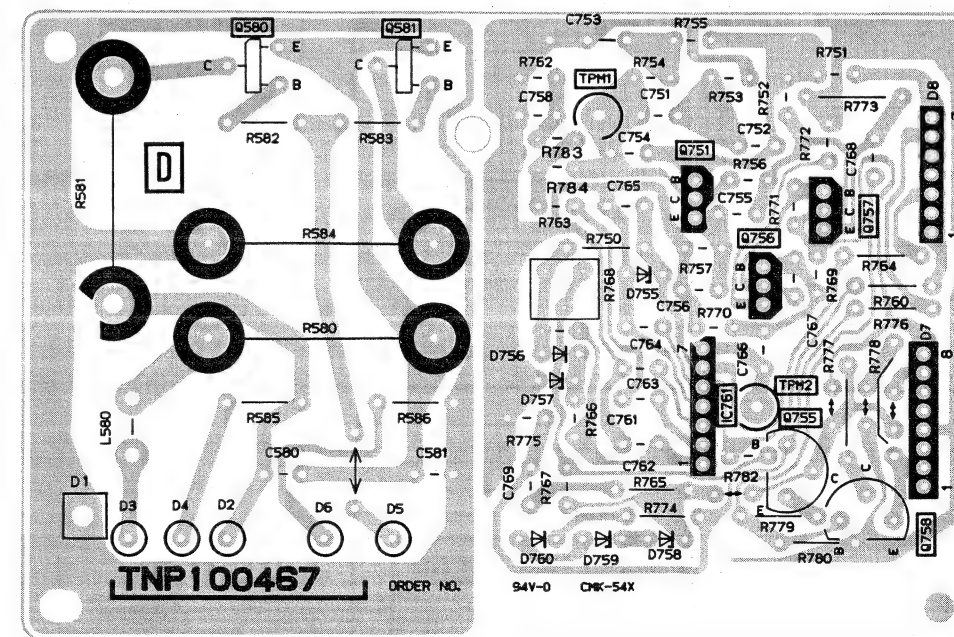
L-BOARD : TNP800460ZA
CRT DRIVE CIRCUIT



L-BOARD	
Transistor	
Q351	E-2
Q352	D-1
Q353	E-2
Q354	E-2
Q355	D-1
Q356	E-2
Q357	D-2
Q358	D-3
Q359	E-3
Q360	D-1
Q361	D-2
Q362	E-3
TP	
TPL1	D-2
TPL2	D-2
TPL3	D-2
VR	
R363	D-2
R364	D-1
R365	D-3

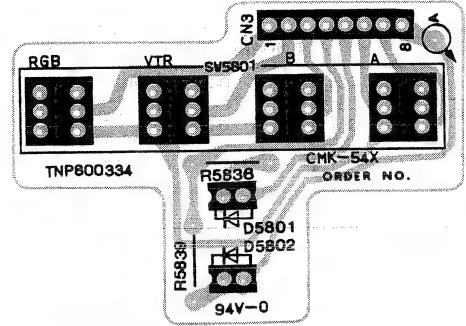
ADDRESS INFORMATION

D-BOARD : TNP100467ZA
PINCUSHION CORRECTOR CIRCUIT

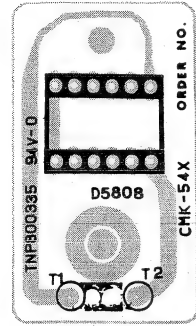


1 2 3

TNP800334ZA
INPUT SELECTOR CIRCUIT



T-BOARD : TNP800335ZA
TALLEY LED CIRCUIT

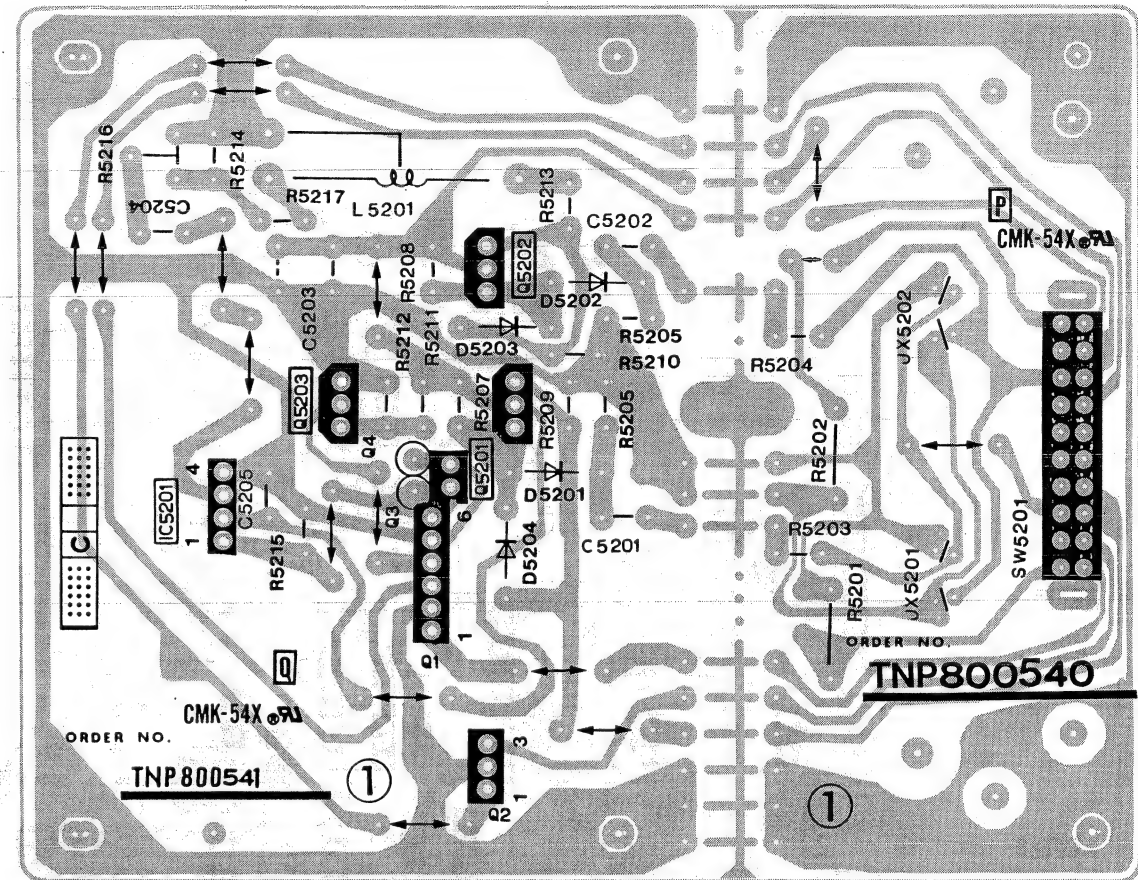


Q-BOARD : TNP800541ZA
S-VIDEO SIGNAL OUT
CIRCUIT

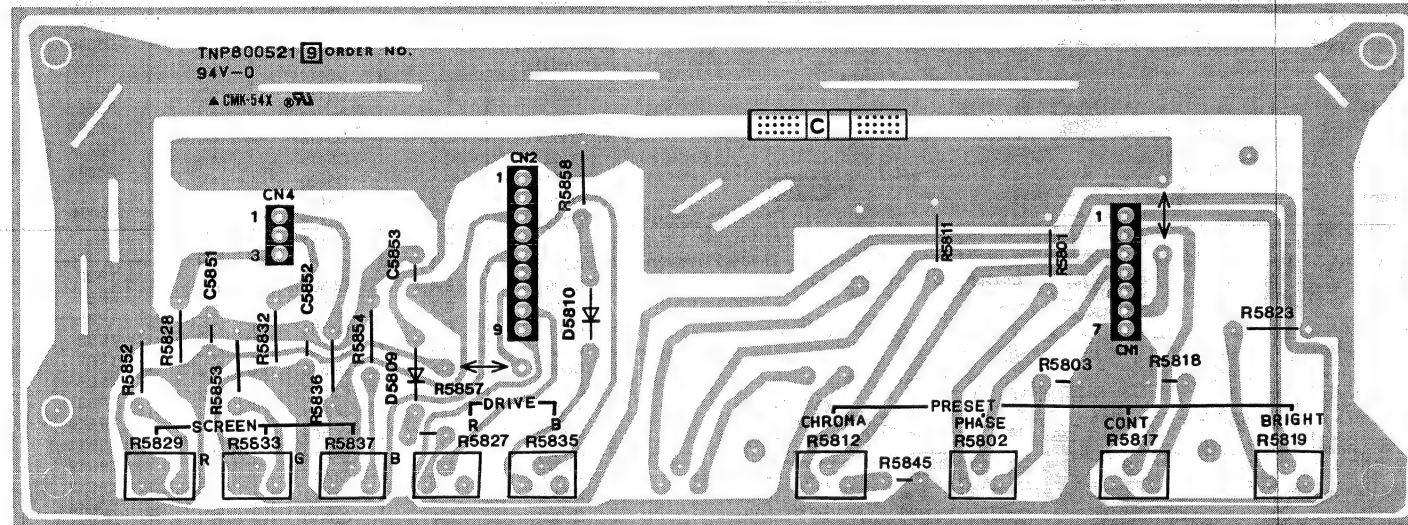
Q-BOARD	
Integrated Circuit	
IC5201	D-5
Transistor	
Q5201	D-6
Q5202	D-6
Q5203	D-6
VR	
R5216	E-5
L5201	E-6

ADDRESS INFORMATION

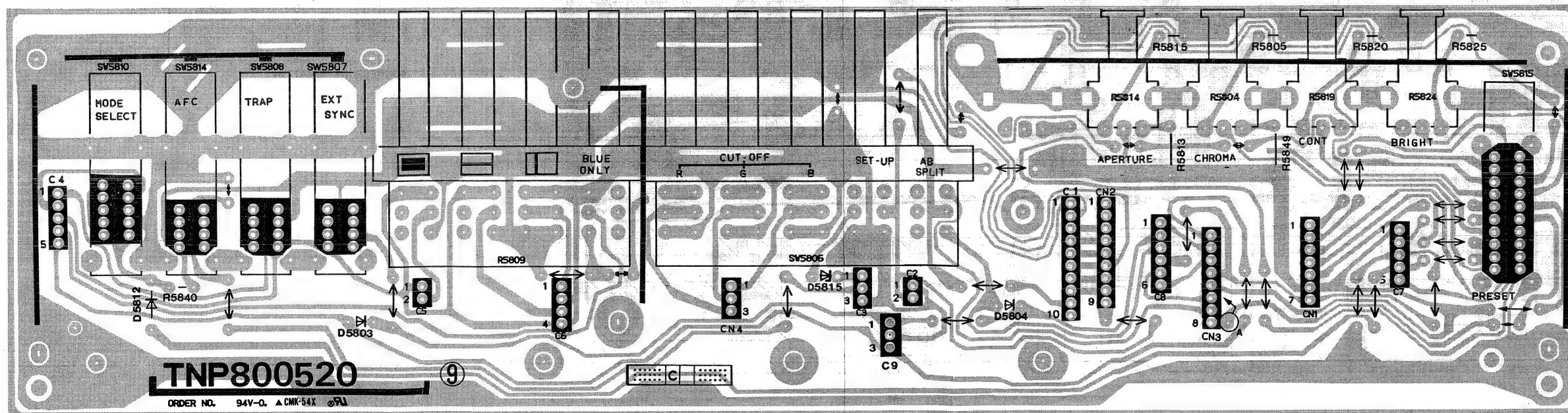
P-BOARD : TNP800540
S-VIDEO TERMINAL CIRCUIT

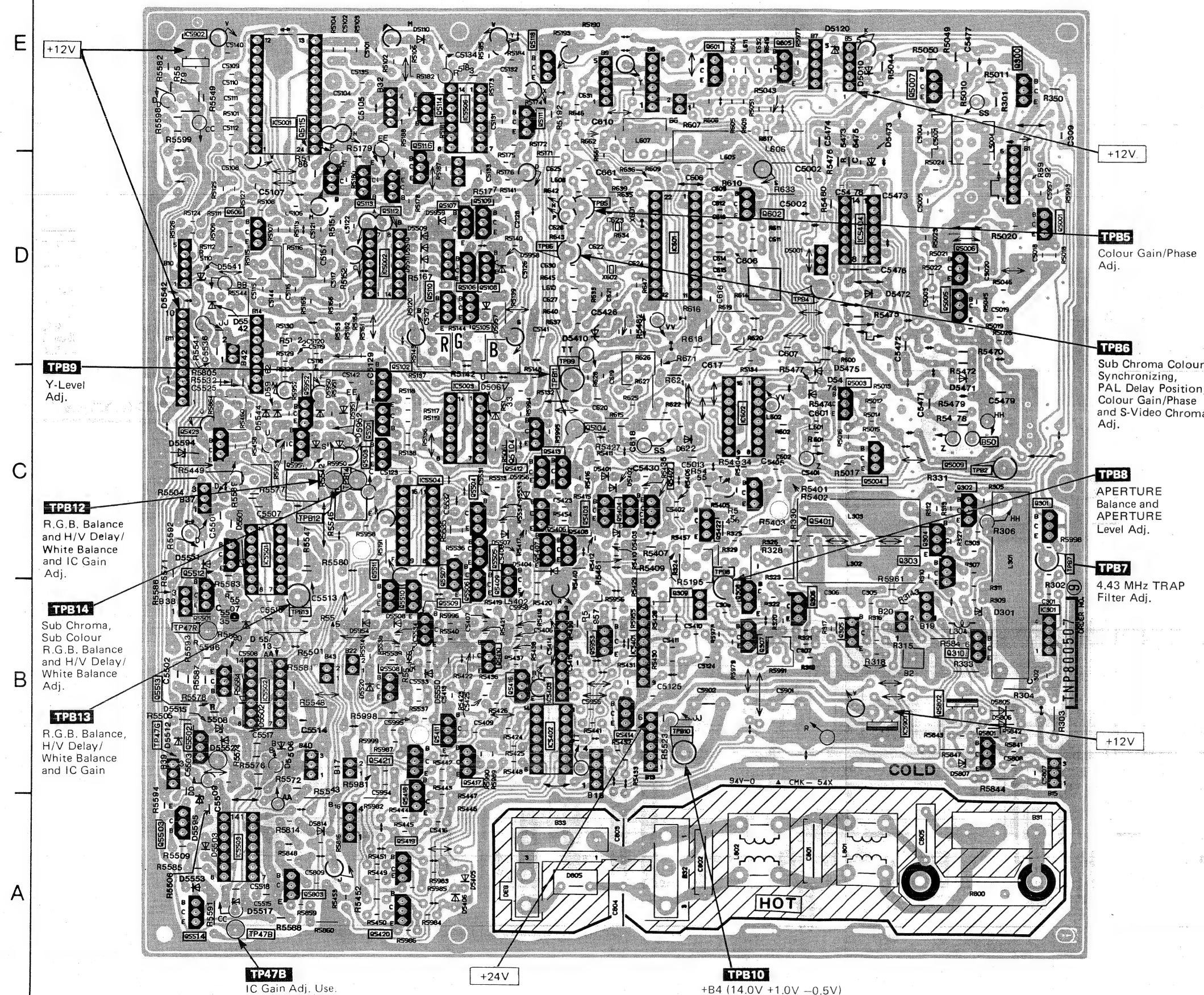


TNP800521ZA
PRESET VR CIRCUIT



C-BOARD : TNP800520ZA
OPERATION CIRCUIT





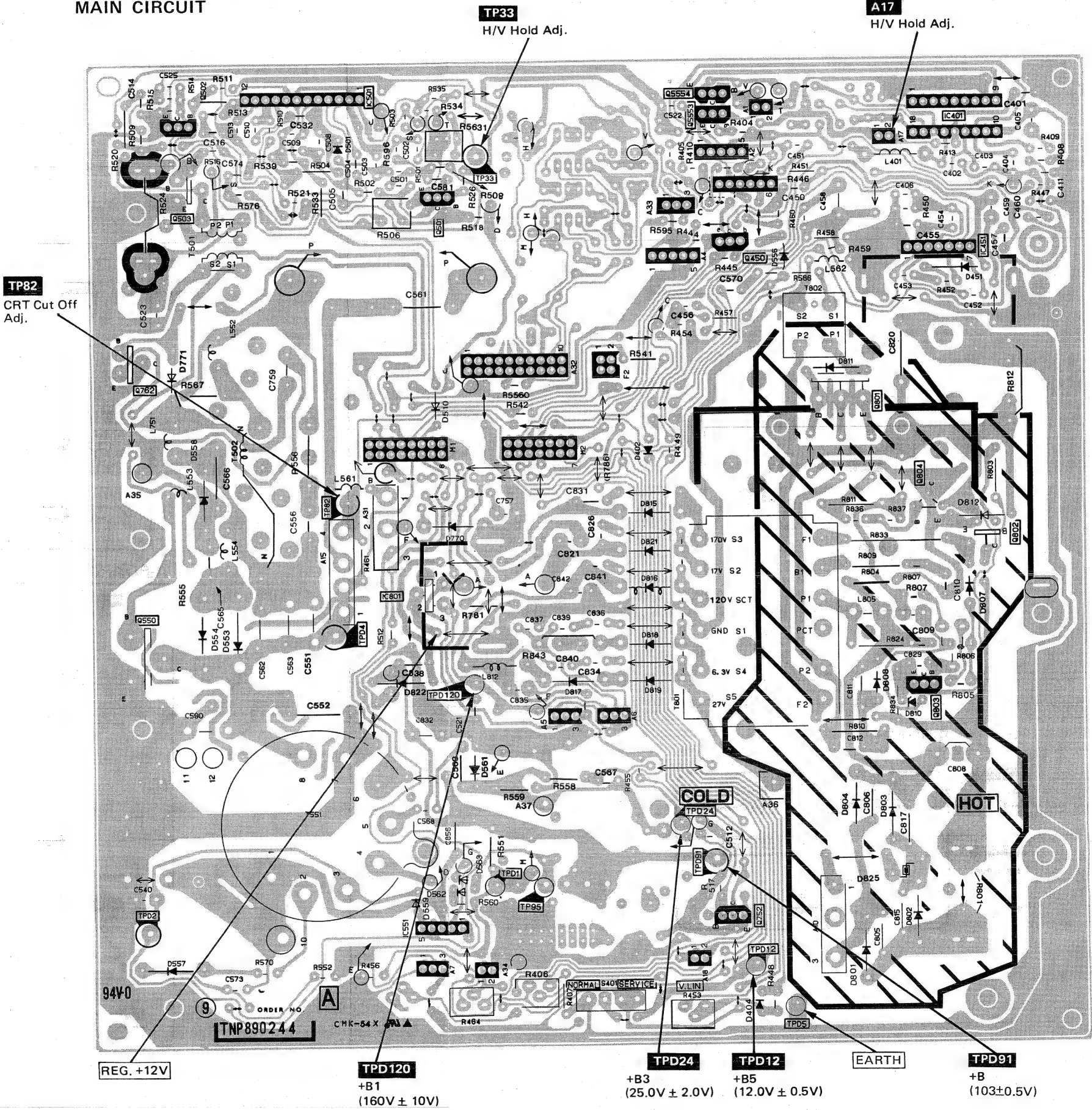
B-BOARD					
Integrated Circuit		Q5110	D-2	VR	
IC301	B-5	Q5111	E-3	R324	C-4
IC601	D-3	Q5112	D-2	R326	C-4
IC602	C-4	Q5113	D-2	R329	C-4
IC5001	E-2	Q5114	E-2	R614	D-1
IC5002	D-2	Q5115	D-2	R619	D-4
IC5003	C-2	Q5116	D-2	R621	C-3
IC5401	B-3	Q5118	E-3	R626	C-3
IC5402	B-3	Q5401	C-4	R5106	E-2
IC5403	B-3	Q5402	C-3	R5115	D-1
IC5404	D-4	Q5403	C-3	R5116	D-2
IC5501	C-2	Q5406	C-3	R5142	C-3
IC5502	B-1	Q5407	C-3	R5143	D-2
IC5503	A-1	Q5408	C-3	R5144	D-2
IC5504	C-2	Q5409	B-3	R5429	B-3
IC5506	E-2	Q5410	B-3	R5440	B-3
IC5901	B-4	Q5411	B-2	R5542	C-2
5902	E-1	Q5412	C-3	R5544	D-1
		Q5413	C-3	R5546	C-2
		Q5414	B-3	R5577	C-1
		Q5416	B-3	R5578	E-1
		Q5417	B-2	R5595	D-1
		Q5418	A-2	R5597	D-1
		Q5419	A-2	R5864	C-1
		Q5420	A-2	R5991	B-4
		Q5421	B-2		
		Q5422	C-4	L5004	E-5
		Q5423	C-1		
		Q5501	B-1	TP	
		Q5502	B-1	TPB2	C-5
		Q5503	A-1	TPB4	D-4
		Q5504	C-2	TPB5	D-3
		Q5505	C-3	TPB6	D-3
		Q5506	B-2	TPB7	C-5
		Q5507	B-2	TPB8	B-4
		Q5508	B-2	TPB9	C-3
		Q5509	B-2	TPB10	B-3
		Q5510	B-2	TPB11	C-3
		Q5511	B-2	TPB12	C-2
		Q5512	C-1	TPB13	B-2
		Q5513	B-1	TPB14	C-2
		Q5514	A-1	TPB23	E-5
		Q5801	B-5	TP47B	A-1
		Q5802	B-5	TP47G	B-1
		Q5803	A-2	TP47R	B-1
		Q5951	C-2		
		Q5952	C-2		
		Q5953	B-3		

ADDRESS INFORMATION

CIRCUIT BOARD

BT-D2020PY/PYG BT-D2020PY/PYG

A-BOARD : TNP890244AB
MAIN CIRCUIT

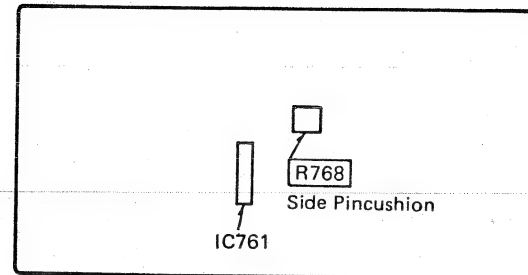


A-BOARD	
Integrated Circuit	
IC401	E-1
IC451	D-1
IC501	E-4
IC551	A-4
IC801	C-4
Transistor	
Q450	D-2
Q501	E-4
Q503	E-5
Q505	E-5
Q550	C-5
Q752	A-2
Q762	D-5
Q801	D-2
Q802	C-1
Q803	B-2
Q804	C-2
Q5553	E-3
Q5554	E-3
VR	
R453	A-3
R506	E-4
R806	C-1
R5631	E-4
TP	
TPD1	B-3
TPD2	A-5
TPD4	C-4
TPD5	A-2
TPD12	A-2
TPD24	B-3
TPD91	B-3
TPD120	B-4
TP33	E-4
TP82	C-4
TP95	B-3

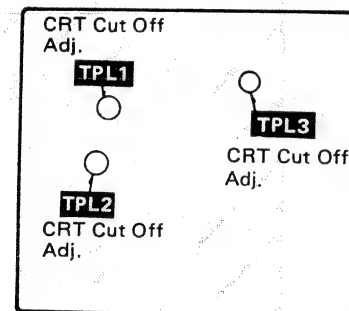
ADDRESS INFORMATION

LOCATION OF TEST POINTS AND CONTROLS

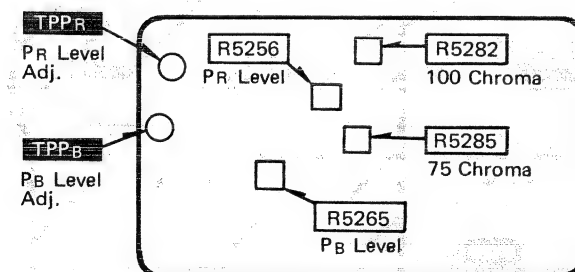
D-BOARD



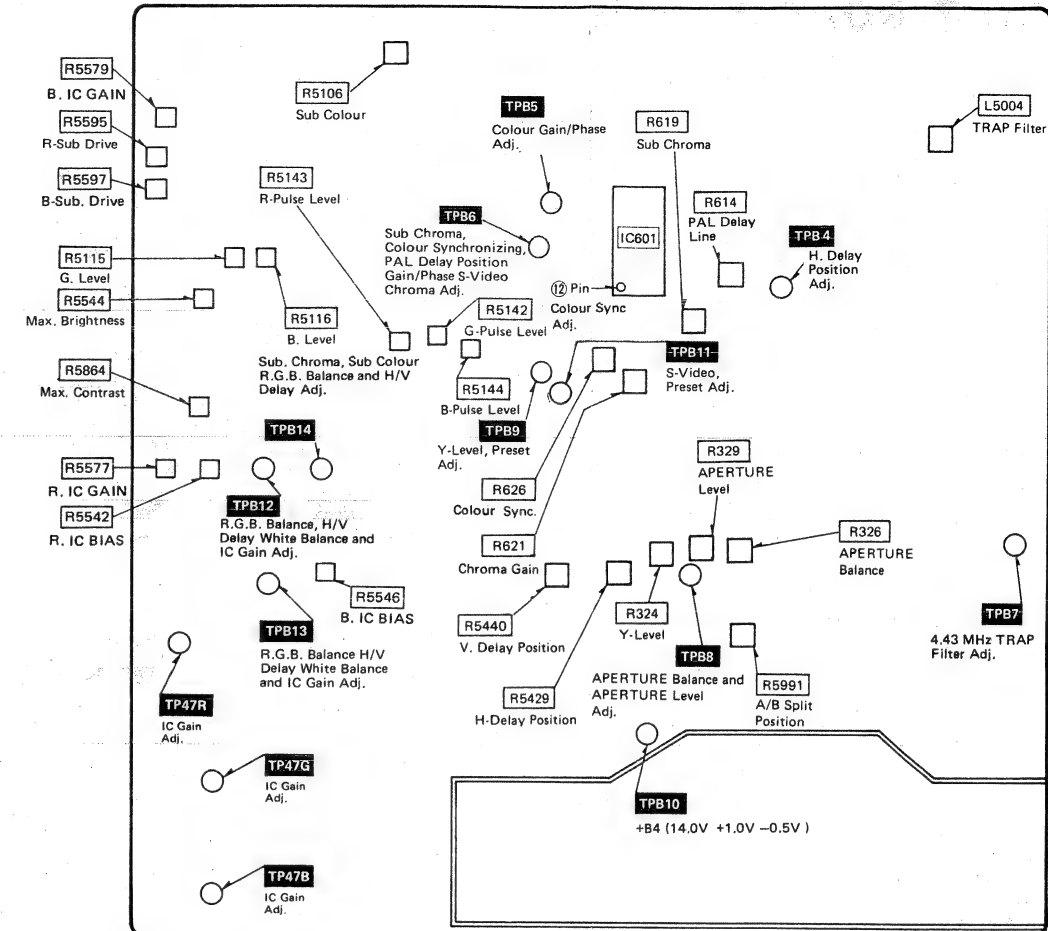
L-BOARD



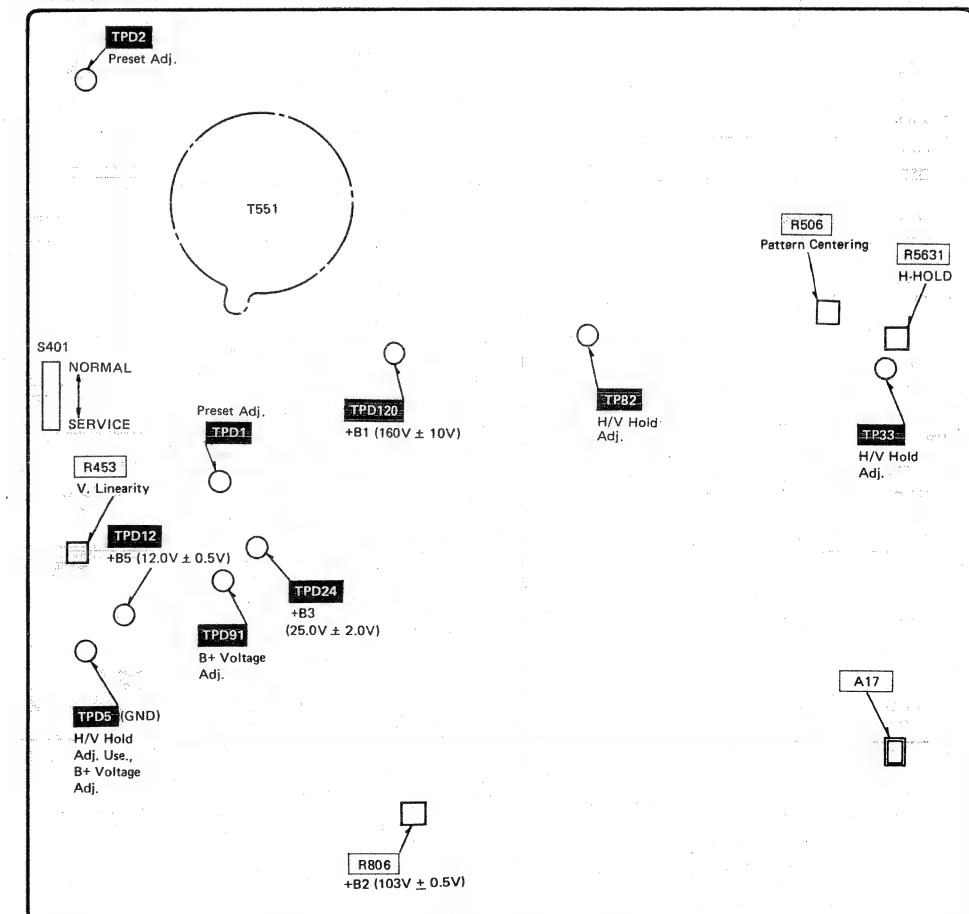
R-BOARD



B-BOARD



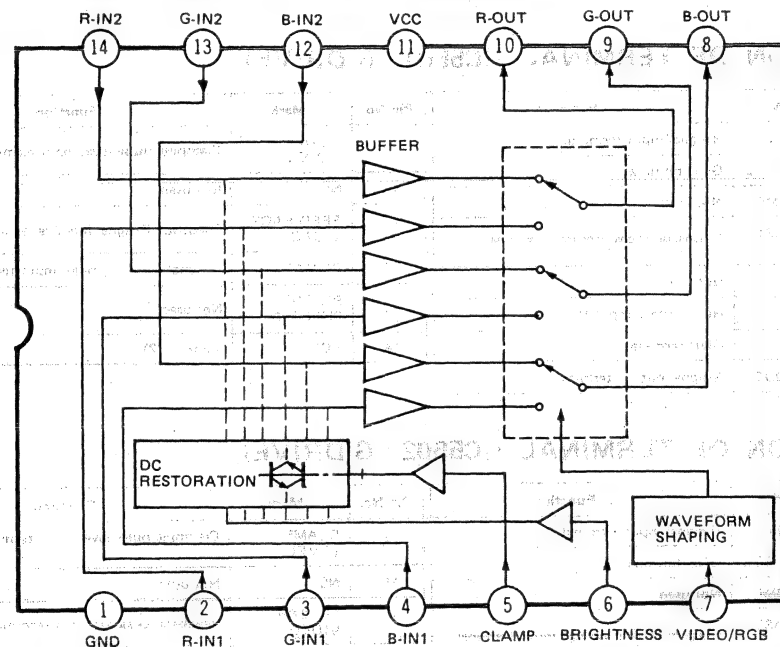
A-BOARD



■ FUNCTION OF TERMINAL (IC601 : AN5625N)

Pin No.	Mark	Function	Pin No.	Mark	Function
1		Delay Line Matrix input terminal	13	COLOR KILLER	Color killer filter terminal.
2	1 HFF PULSE	H. Pulse input terminal.	14	BURST GATE PULSE IN	Burst gate pulse input terminal.
3		Delay signal output terminal.	15	3.58 MHz	Not used.
4		Time constant terminal	16	4.43 MHz	4.43 MHz sub carrier oscillation output terminal.
5		Chroma signal input terminal.	17	OSC IN	4.43 MHz sub carrier oscillation input terminal.
6	GND	GND terminal.	18	CLAMP BLK.	Blanking pulse input terminal.
7	CHROMA IN	Chroma signal input terminal.	19	PAL/NTSC	PAL/NTSC selecting pulse input terminal.
8	COLOR/CTL	Color control voltage input terminal.	20	B-Y OUT	Difference signal (B-Y) output terminal.
9	TNT/CTL	Phase control voltage input terminal.	21	G-Y OUT	Not used.
10	ACC	ACC filter terminal.	22	R-Y OUT	Difference signal (R-Y) output terminal.
11	VCC	Apply +12V.			
12	APC	Phase detection terminal.			

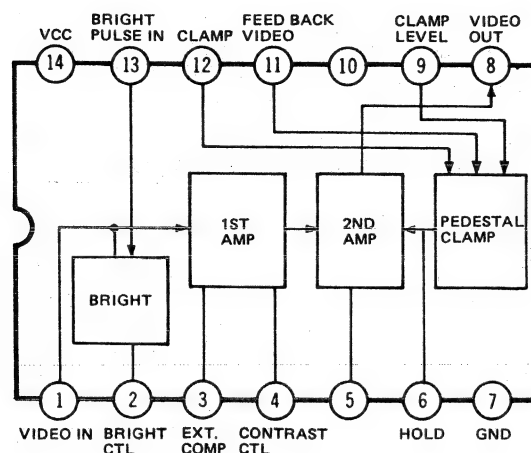
■ EQUIVALENT CIRCUIT (IC5002 : AN5860)



■ FUNCTION OF TERMINAL (IC5002 : AN5860)

Pin No.	Mark	Function	Pin No.	Mark	Function
1	GND	GND terminal.	8	R-OUT	R-signal output terminal.
2	R-IN 1	R(1)-signal input terminal.	9	G-OUT	G-signal output terminal.
3	G-IN 1	G(1)-signal input terminal.	10	B-OUT	B-signal output terminal.
4	B-IN1	B(1)-signal input terminal.	11	VCC	Apply +12V.
5	CLAMP	DC restoration input terminal.	12	B-IN 2	B(2)-signal input terminal.
6	BRIGHTNESS	Brightness control voltage input terminal.	13	G-IN 2	G(2)-signal input terminal.
7	VIDEO/RGB	VIDEO/RGB selecting pulse input terminal.	14	R-IN 2	R(2)-signal input terminal.

■ EQUIVALENT CIRCUIT (IC5501/IC5502/IC5503 : M51392P)



■ FUNCTION OF TERMINAL (IC5501 : R DRIVE)

Pin No.	Mark	Function	Pin No.	Mark	Function
1	VIDEO IN	R-signal input terminal.	9	CLAMP LEVEL	Clamping pulse level input terminal.
2	BRIGHT CTL	GND terminal.	10	NC	Not used.
3	EXT. COMP	Not used.	11	FEED BACK VIDEO	Feedback R-signal input terminal.
4	CONTRAST CTL	R signal driving voltage input terminal.	12	CLAMP	R-signal clamping pulse input terminal.
5	NC	Not used.	13	BRIGHT PULSE IN	Not used.
6	HOLD	Hold voltage input terminal.	14	VCC	Apply +12V.
7	GND	GND terminal.			
8	VIDEO OUT	R-signal output terminal.			

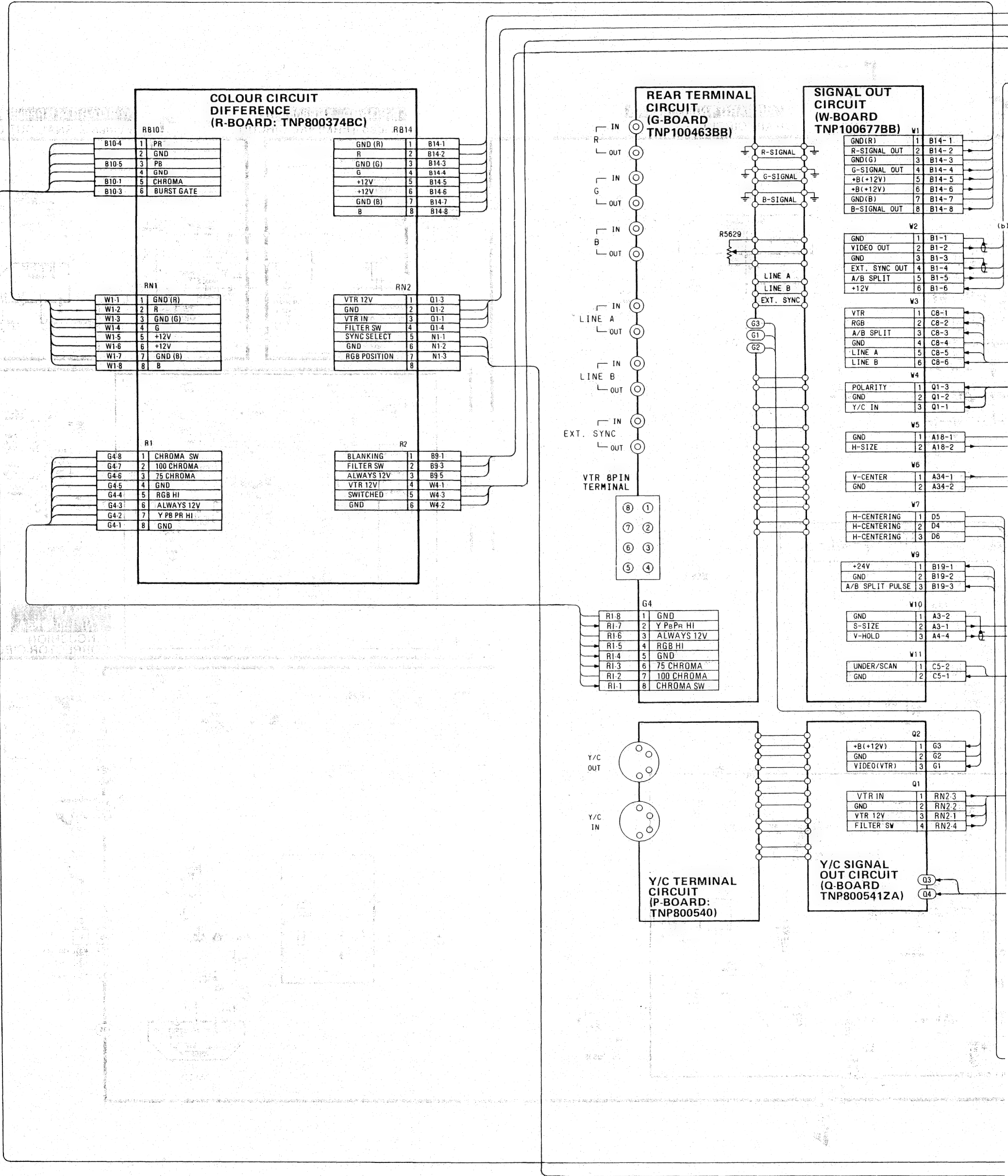
■ FUNCTION OF TERMINAL (IC5502 : G DRIVE)

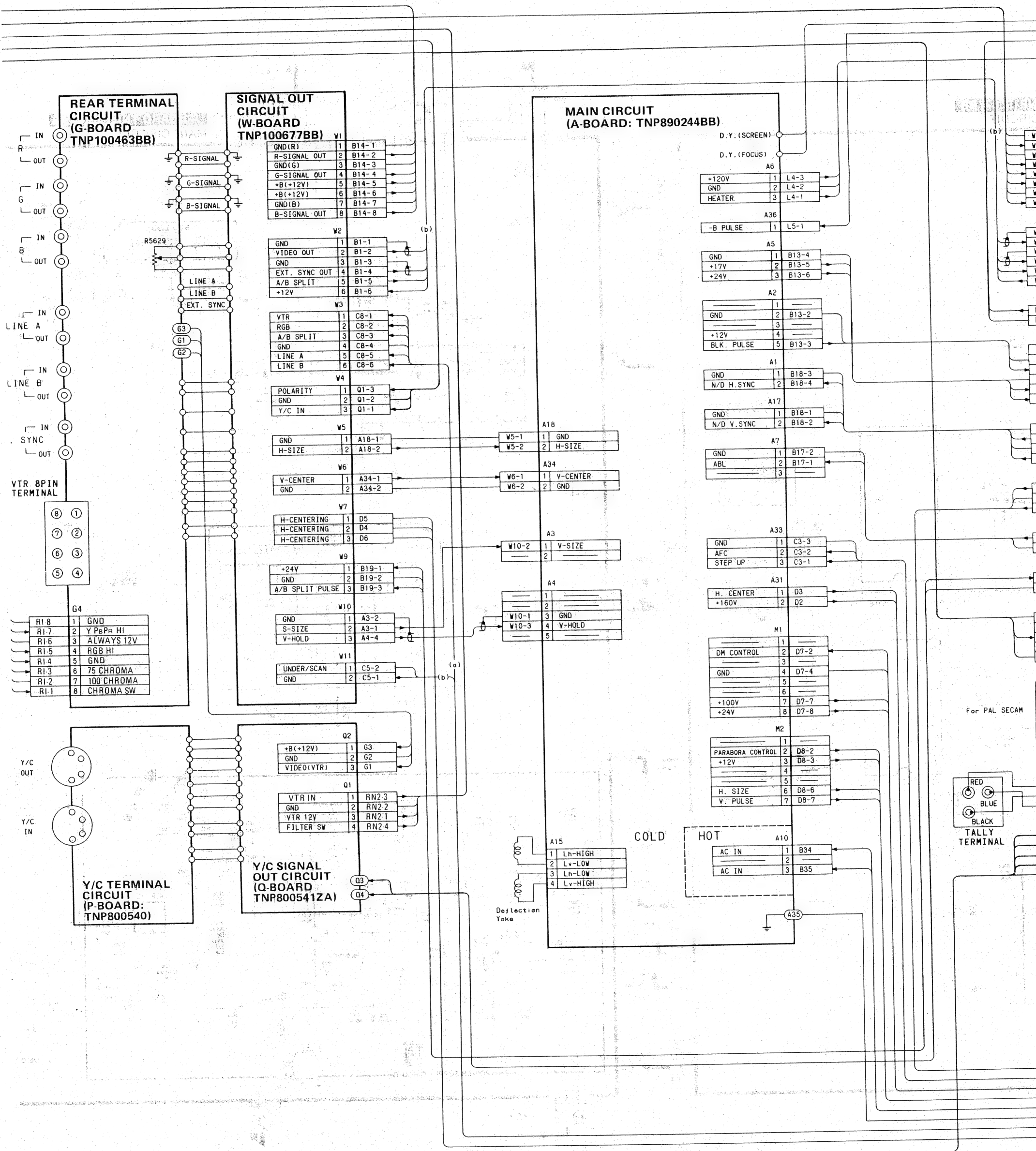
Pin No.	Mark	Function	Pin No.	Mark	Function
1	VIDEO IN	G-signal input terminal.	9	CLAMP LEVEL	Clamping pulse level input terminal.
2	BRIGHT CTL	GND terminal.	10	NC	Not used.
3	EXT. COMP	Not used.	11	FEEDBACK VIDEO	Feedback G-signal input terminal.
4	CONTRAST CTL	G-signal driving voltage input terminal.	12	CLAMP	G-signal clamping pulse input terminal.
5	NC	Not used.	13	BRIGHT PULSE IN	Not used.
6	HOLD	Hold voltage input terminal.	14	VCC	Apply +12V.
7	GND	GND terminal.			
8	VIDEO OUT	G-signal output terminal.			

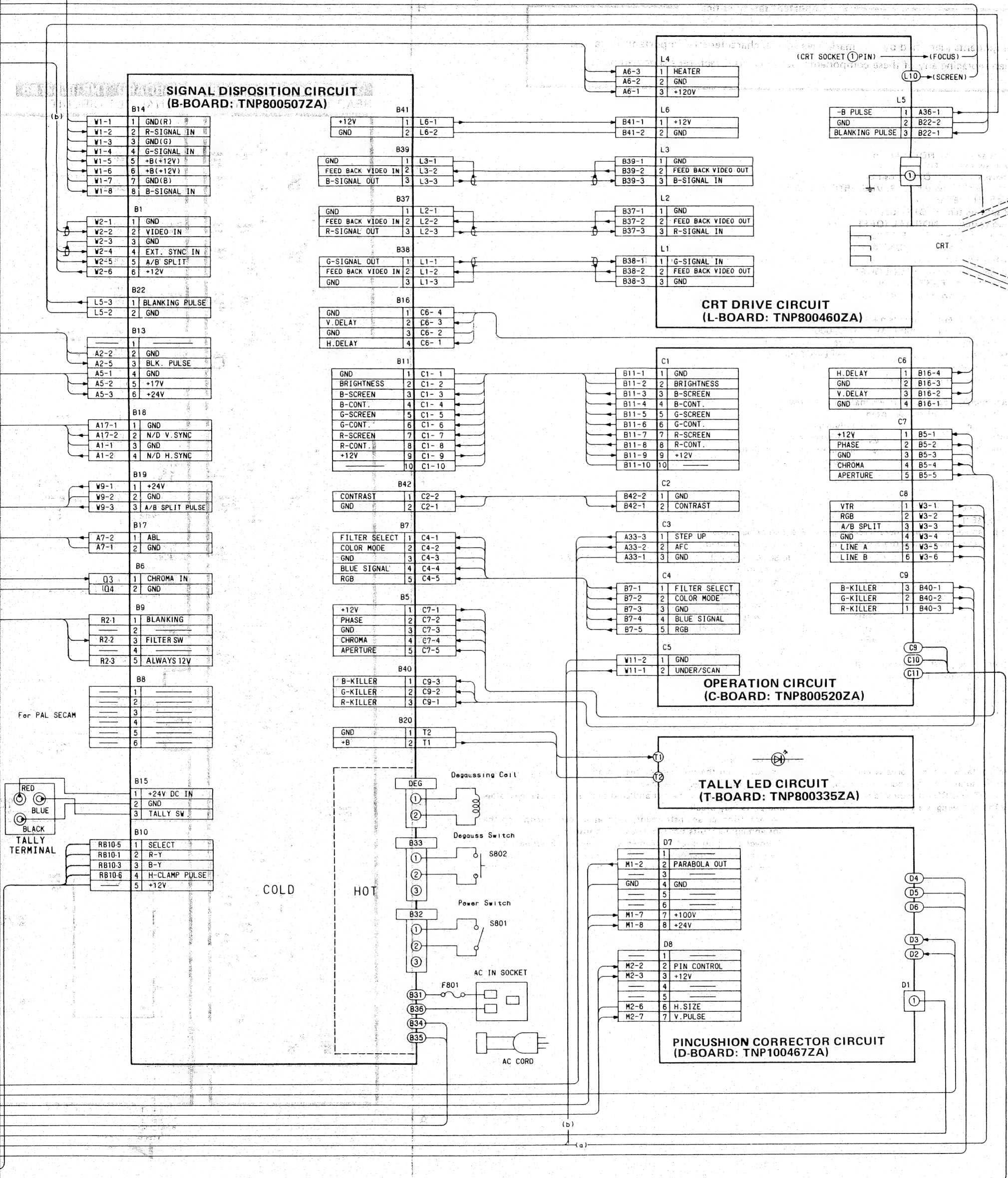
■ FUNCTION OF TERMINAL (IC5503: B DRIVE)

Pin No.	Mark	Function	Pin No.	Mark	Function
1	VIDEO IN	B-signal input terminal.	9	CLAMP LEVEL	Clamping pulse level input terminal.
2	BRIGHT CTL	GND terminal.	10	NC	Not used.
3	EXT. COMP	Not used.	11	FEEDBACK VIDEO	Feedback B-signal input terminal.
4	CONTRAST CTL	B-signal driving voltage input terminal.	12	CLAMP	B-signal clamping pulse input terminal.
5	NC	Not used.	13	BRIGHT PULSE IN	Not used.
6	HOLD	Hold voltage input terminal.	14	VCC	Apply +12V.
7	GND	GND terminal.			
8	VIDEO OUT	B-signal output terminal.			

INTERCONNECTION SCHEMATIC DIAGRAM







SCHEMATIC DIAGRAM FOR MODEL BT-D2020PY/PYG CHASSIS NO. H01M5)

Important safety notice

Components identified by Δ mark have special characteristics important for safety.
When replacing any of these components, use only manufacturer's specified parts.

E:

- S401** : Service switch in "NORMAL" position.
S801 : Power switch in "OFF" position.
S802 : Degauss switch in "OFF" position.
SW5201 : 8P Y/C selector switch in "S. VHS. 75 Ω " position.
SW5802 : Cut off (R.G.B.) switch.
SW5805 : A/B split switch in "OFF" position.
SW5806 : Set-up switch in "NORMAL (OFF)" position.
SW5807 : Sync selector switch in "EXT" position.
SW5808 : Filter selector switch in "ON" position.
SW5809 : BLUE Signal Under scan \square /H. Delay \square /V. Delay \square switch in "OFF" position.
SW5810 : Mode selector switch in "COLOUR" position.
SW5814 : AFC switch in "FAST" position.
SW5815 : Preset selector switch in "ON" position.

RESISTOR

All resistors are carbon 1/4W resistor, unless marked as follows:

Unit of resistance is OHM (Ω), (K = 1,000, M = 1,000,000).

- Δ : Solid resistor \otimes : Fuse
 \bullet : Metal Oxide L : Lead Less Type
 \circ : Non flammable \odot : Fixed Metal Film
 \square : Wire Wound (non flammable)

CAPACITOR

All capacitors are ceramic 50V capacitor, unless marked as follows:

Unit of capacitance is μ F, unless otherwise noted.

- H : Electrolytic M : Polyester
 NP : Bipolar X : Polypropylene
 Z : Z Type \bullet : Temperature Compensation
 L : Lead Less Type T : Dipped Tantalum

COIL

Unit of inductance is μ H.

TEST POINT

- \bullet : Test point position.

VOLTAGE MEASUREMENT

Voltage is measured by an electronic voltmeter receiving Full Field color bar signal.

Set the following controls and switch (on the Front Panel) to the position indicated.

- | | |
|--|---|
| Drive Control (R/B) Centre | Mode Selector Switch COLOUR |
| Screen Control VR (R/G/B) Centre | AFC Selector Switch FAST |
| Contrast VR Centre | Filter Selector Switch ON |
| Chroma VR Centre | Sync Selector Switch INT |
| Aperture VR Centre | H-Delay Switch \square OFF |
| Brightness VR Centre | V-Delay Switch \square OFF |
| Phase VR Centre | Blue Signal Only Switch OFF |
| Set-Up Switch OFF | Preset Switch ON |
| Cut Off Switch OFF | A/B Split Selector Switch OFF |

This schematic diagram is the latest at the time of printing and subject to change without notice.

- --- Positive and negative voltage lines.
 --- Video signal
 --- S. Video signal
 --- V or H Out
 --- RGB signal

PRECAUTIONS

Power Circuit board contains a circuit area which uses separate power supply to isolate the ground connection. circuit is defined by HOT and COLD indications in the schematic diagram. Take the following precautions.

1. Do not touch the hot part or the hot and cold parts at the same time or you may receive a shock.
2. Do not short-circuit the hot and cold circuits or a fuse may blow and parts may break.
3. Do not connect an instrument, such as an oscilloscope, to the hot and cold circuits simultaneously or a fuse may blow. Connect the ground of instruments to the ground connection of the circuit being measured.
4. Make sure to disconnect the power plug before removing the chassis.

H

G

F

E

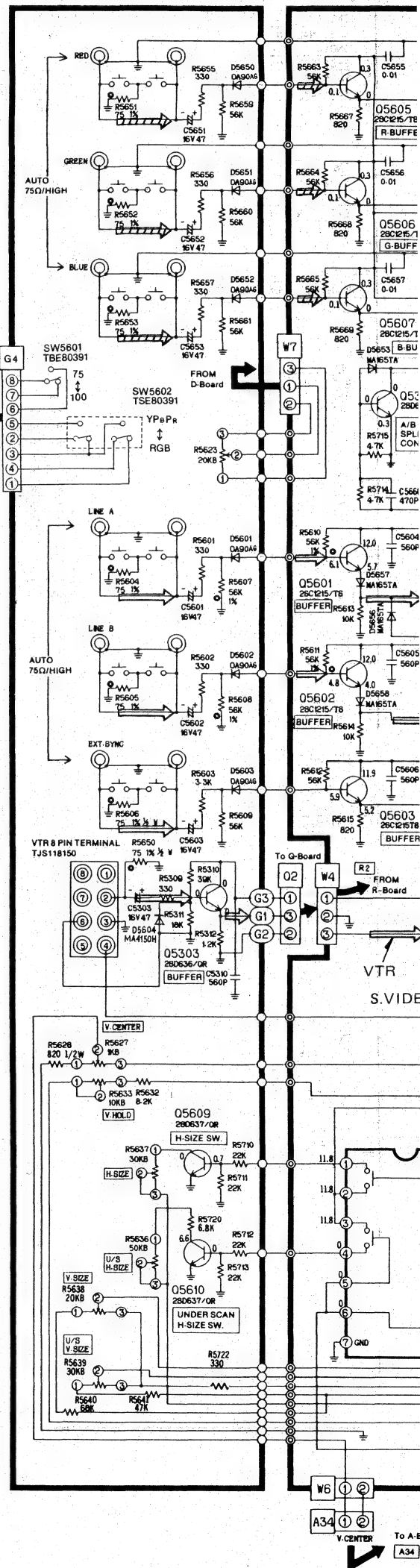
D

C

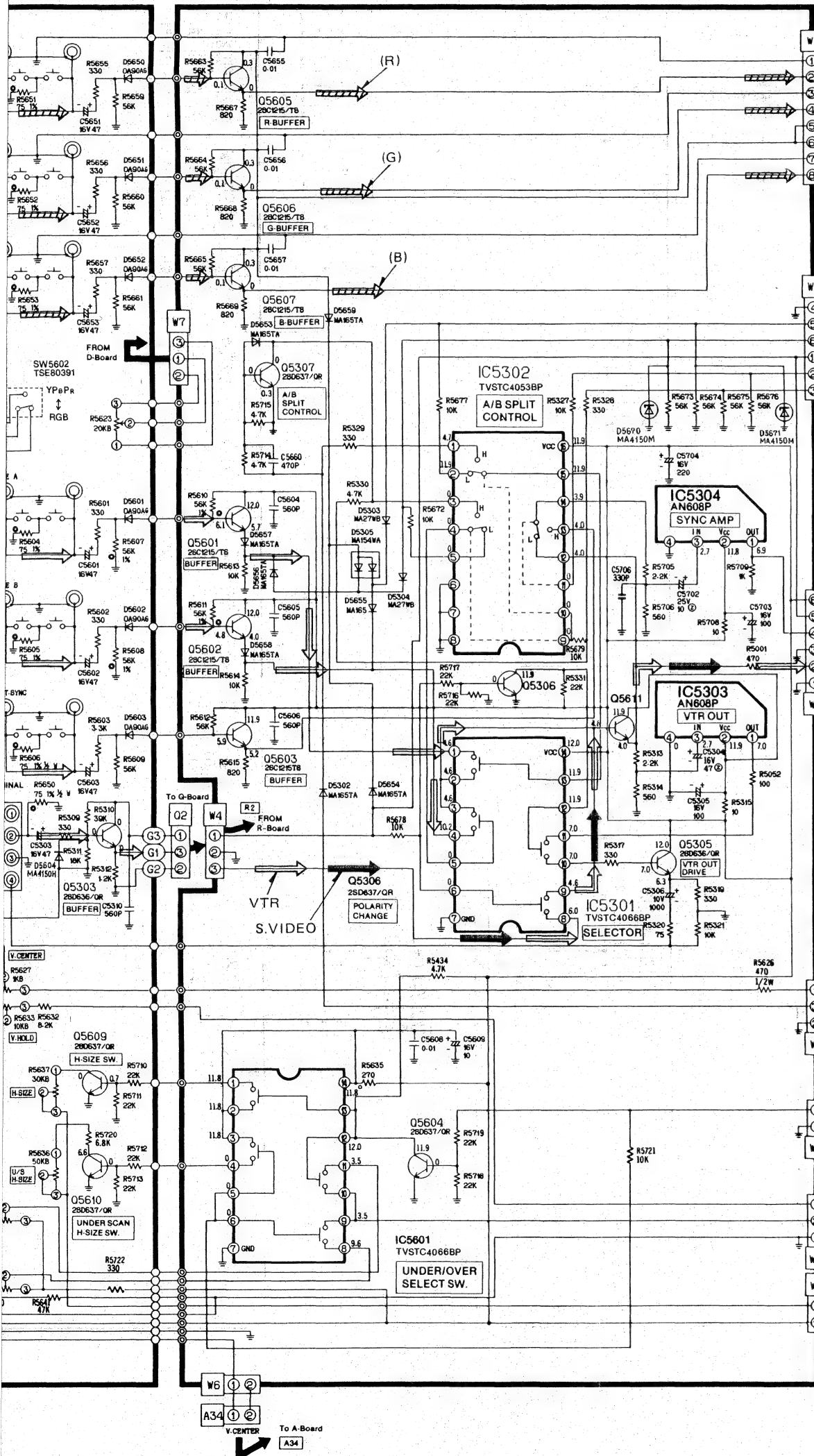
B

A

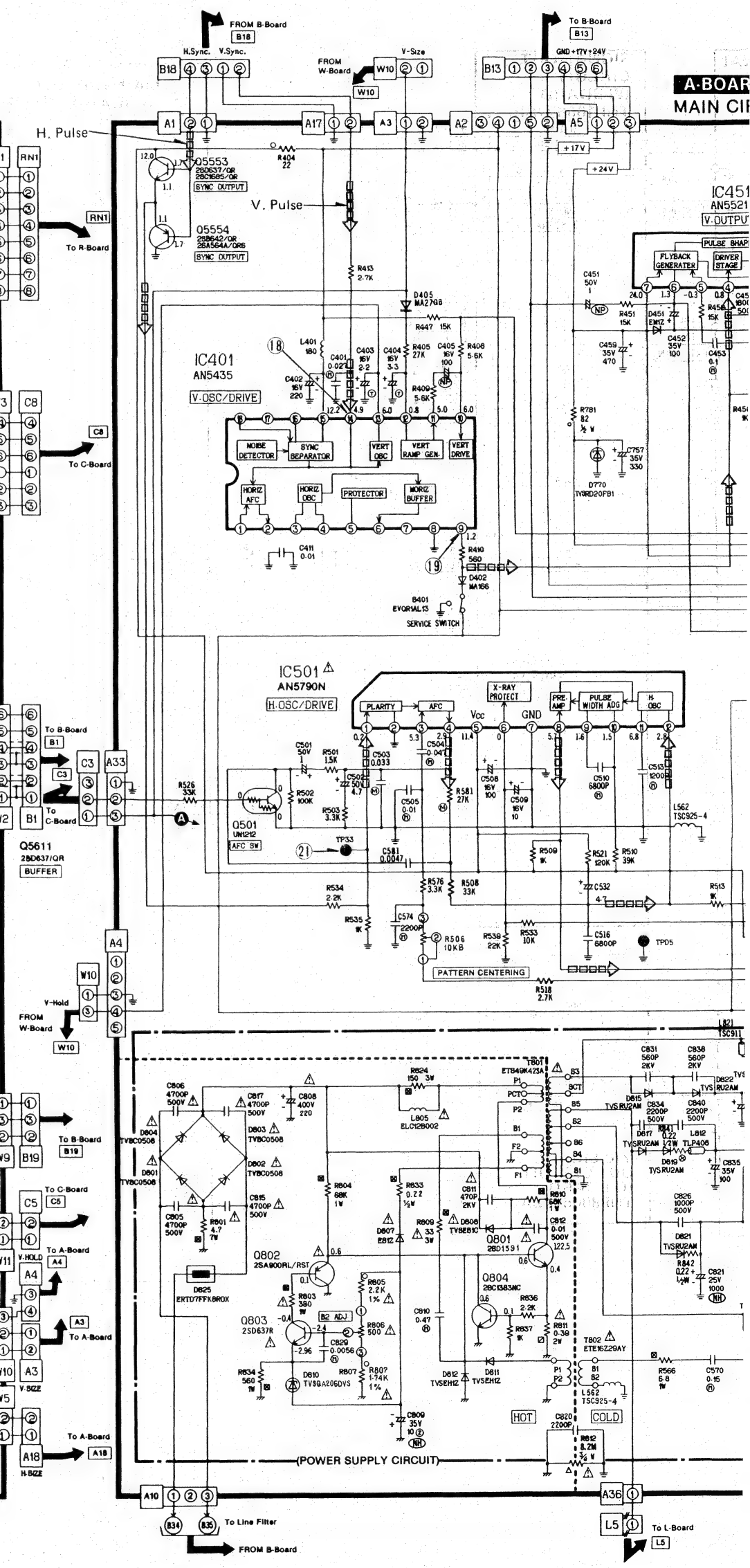
G-BOARD: TNP100463BB W-BOARD: TNP100463BB **REAR TERMINAL CIRCUIT SIGNAL OUT**



W-BOARD: TNP100677BB
SIGNAL OUT CIRCUIT



A-BOARD
MAIN CIR



A

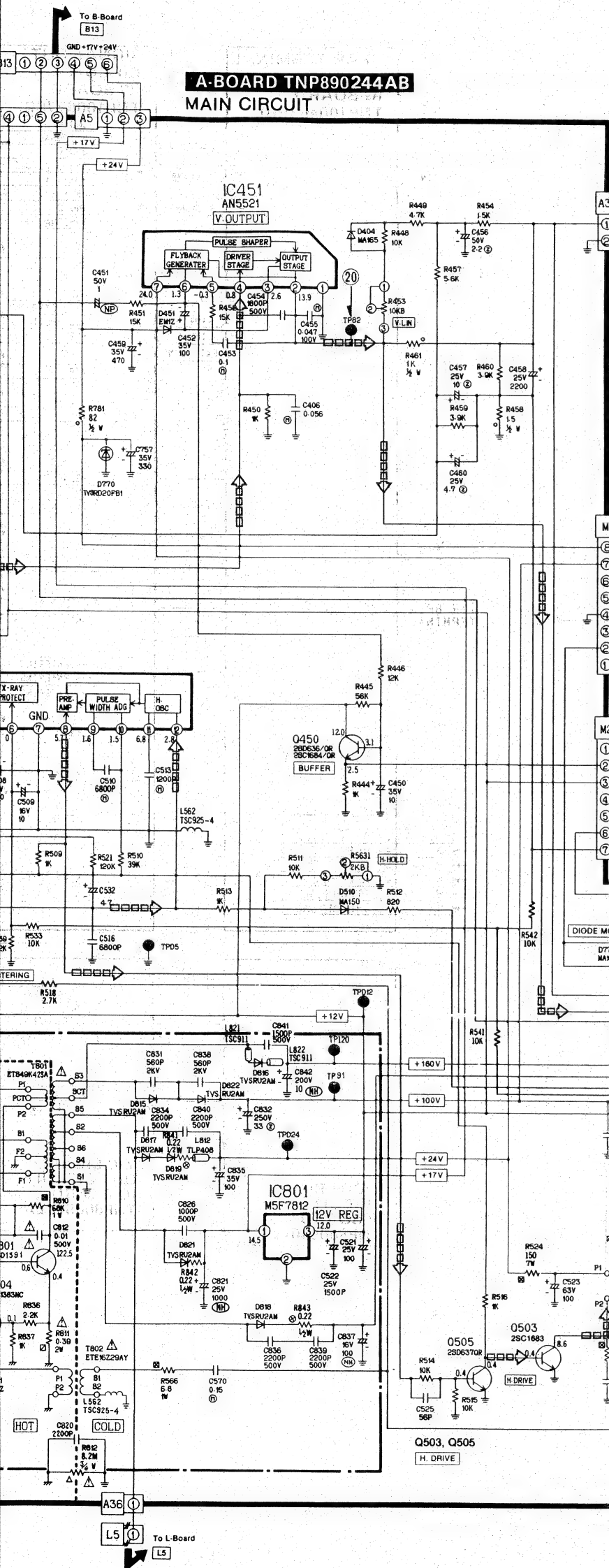


The schematic diagram illustrates the power supply circuit for a medical X-ray unit, divided into two main sections: V. OSC/DRIVE and H. OSC/DRIVE.

V. OSC/DRIVE Section:

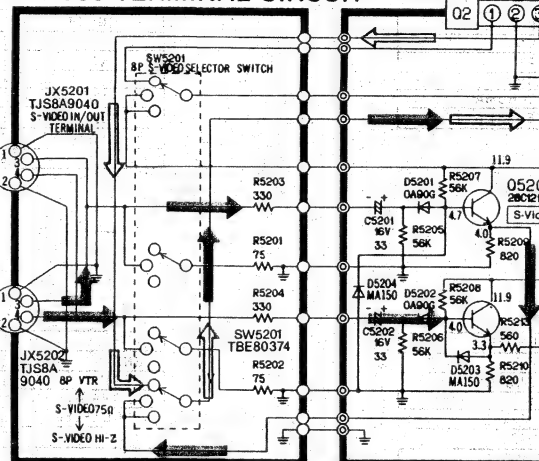
- IC401 AN5435:** This integrated circuit is the central component, featuring internal blocks for NOISE DETECTOR, SYNC SEPARATOR, VERT OSC, VERT RAMP GEN, VERT DRIVE, HORIZ AFC, HORIZ OSC, PROTECTOR, and HORIZ BUFFER.
- Inputs:** K.Sync. and V.Sync. signals are provided via B18. FROM B-Board and FROM W-Board signals are provided via W10. A V-Size signal is provided via B13.
- Outputs:** The circuit provides V. Pulse and V. Drive signals.
- Components:** Various resistors (R401, R402, R403, R404, R405, R406, R407, R408, R409, R410, R411, R412, R413, R414, R415, R416, R417, R418, R419, R420, R421, R422, R423, R424, R425, R426, R427, R428, R429, R430, R431, R432, R433, R434, R435, R436, R437, R438, R439, R440, R441, R442, R443, R444, R445, R446, R447, R448, R449, R450, R451, R452, R453, R454, R455, R456, R457, R458, R459, R460, R461, R462, R463, R464, R465, R466, R467, R468, R469, R470, R471, R472, R473, R474, R475, R476, R477, R478, R479, R480, R481, R482, R483, R484, R485, R486, R487, R488, R489, R490, R491, R492, R493, R494, R495, R496, R497, R498, R499, R500, R501, R502, R503, R504, R505, R506, R507, R508, R509, R510, R511, R512, R513, R514, R515, R516, R517, R518, R519, R520, R521, R522, R523, R524, R525, R526, R527, R528, R529, R530, R531, R532, R533, R534, R535, R536, R537, R538, R539, R540, R541, R542, R543, R544, R545, R546, R547, R548, R549, R550, R551, R552, R553, R554, R555, R556, R557, R558, R559, R560, R561, R562, R563, R564, R565, R566, R567, R568, R569, R570, R571, R572, R573, R574, R575, R576, R577, R578, R579, R580, R581, R582, R583, R584, R585, R586, R587, R588, R589, R590, R591, R592, R593, R594, R595, R596, R597, R598, R599, R600, R601, R602, R603, R604, R605, R606, R607, R608, R609, R610, R611, R612, R613, R614, R615, R616, R617, R618, R619, R620, R621, R622, R623, R624, R625, R626, R627, R628, R629, R630, R631, R632, R633, R634, R635, R636, R637, R638, R639, R640, R641, R642, R643, R644, R645, R646, R647, R648, R649, R650, R651, R652, R653, R654, R655, R656, R657, R658, R659, R660, R661, R662, R663, R664, R665, R666, R667, R668, R669, R670, R671, R672, R673, R674, R675, R676, R677, R678, R679, R680, R681, R682, R683, R684, R685, R686, R687, R688, R689, R690, R691, R692, R693, R694, R695, R696, R697, R698, R699, R700, R701, R702, R703, R704, R705, R706, R707, R708, R709, R710, R711, R712, R713, R714, R715, R716, R717, R718, R719, R720, R721, R722, R723, R724, R725, R726, R727, R728, R729, R730, R731, R732, R733, R734, R735, R736, R737, R738, R739, R740, R741, R742, R743, R744, R745, R746, R747, R748, R749, R750, R751, R752, R753, R754, R755, R756, R757, R758, R759, R760, R761, R762, R763, R764, R765, R766, R767, R768, R769, R770, R771, R772, R773, R774, R775, R776, R777, R778, R779, R780, R781, R782, R783, R784, R785, R786, R787, R788, R789, R790, R791, R792, R793, R794, R795, R796, R797, R798, R799, R800, R801, R802, R803, R804, R805, R806, R807, R808, R809, R810, R811, R812, R813, R814, R815, R816, R817, R818, R819, R820, R821, R822, R823, R824, R825, R826, R827, R828, R829, R830, R831, R832, R833, R834, R835, R836, R837, R838, R839, R840, R841, R842, R843, R844, R845, R846, R847, R848, R849, R850, R851, R852, R853, R854, R855, R856, R857, R858, R859, R860, R861, R862, R863, R864, R865, R866, R867, R868, R869, R870, R871, R872, R873, R874, R875, R876, R877, R878, R879, R880, R881, R882, R883, R884, R885, R886, R887, R888, R889, R890, R891, R892, R893, R894, R895, R896, R897, R898, R899, R900, R901, R902, R903, R904, R905, R906, R907, R908, R909, R910, R911, R912, R913, R914, R915, R916, R917, R918, R919, R920, R921, R922, R923, R924, R925, R926, R927, R928, R929, R930, R931, R932, R933, R934, R935, R936, R937, R938, R939, R940, R941, R942, R943, R944, R945, R946, R947, R948, R949, R950, R951, R952, R953, R954, R955, R956, R957, R958, R959, R960, R961, R962, R963, R964, R965, R966, R967, R968, R969, R970, R971, R972, R973, R974, R975, R976, R977, R978, R979, R980, R981, R982, R983, R984, R985, R986, R987, R988, R989, R990, R991, R992, R993, R994, R995, R996, R997, R998, R999, R1000, R1001, R1002, R1003, R1004, R1005, R1006, R1007, R1008, R1009, R1010, R1011, R1012, R1013, R1014, R1015, R1016, R1017, R1018, R1019, R1020, R1021, R1022, R1023, R1024, R1025, R1026, R1027, R1028, R1029, R1030, R1031, R1032, R1033, R1034, R1035, R1036, R1037, R1038, R1039, R1040, R1041, R1042, R1043, R1044, R1045, R1046, R1047, R1048, R1049, R1050, R1051, R1052, R1053, R1054, R1055, R1056, R1057, R1058, R1059, R1060, R1061, R1062, R1063, R1064, R1065, R1066, R1067, R1068, R1069, R1070, R1071, R1072, R1073, R1074, R1075, R1076, R1077, R1078, R1079, R1080, R1081, R1082, R1083, R1084, R1085, R1086, R1087, R1088, R1089, R1090, R1091, R1092, R1093, R1094, R1095, R1096, R1097, R1098, R1099, R1100, R1101, R1102, R1103, R1104, R1105, R1106, R1107, R1108, R1109, R1110, R1111, R1112, R1113, R1114, R1115, R1116, R1117, R1118, R1119, R1120, R1121, R1122, R1123, R1124, R1125, R1126, R1127, R1128, R1129, R1130, R1131, R1132, R1133, R1134, R1135, R1136, R1137, R1138, R1139, R1140

A-BOARD TNP890244AB
MAIN CIRCUIT



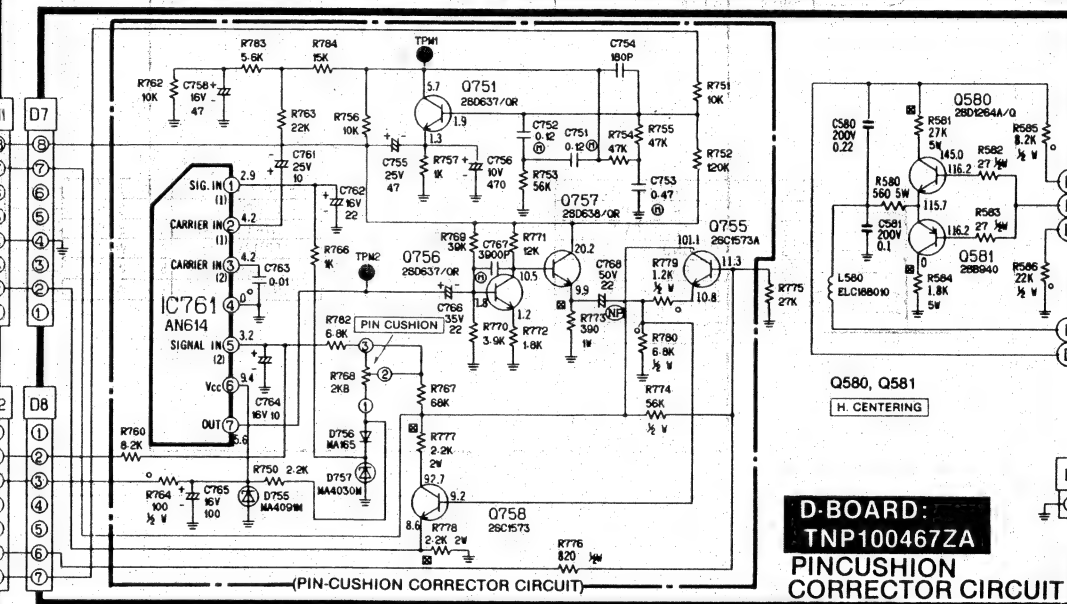
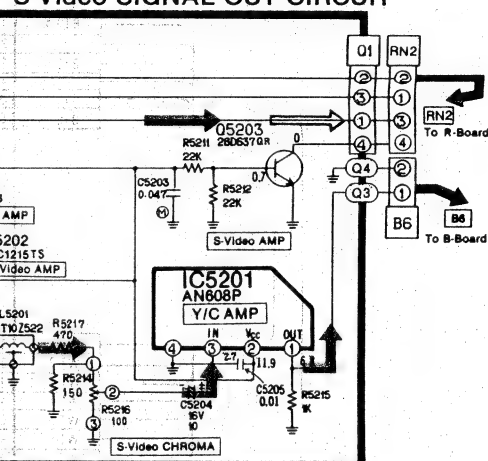
P-BOARD: TNP800540

S-Video TERMINAL CIRCUIT



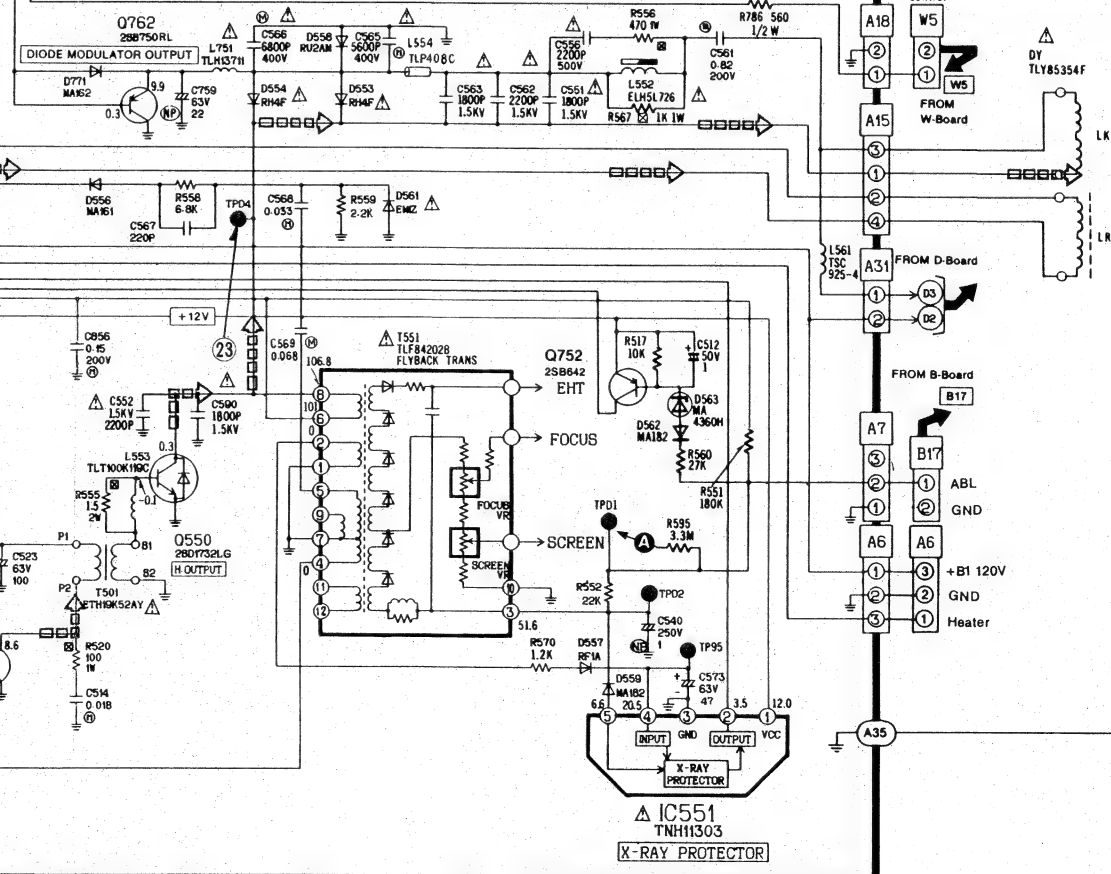
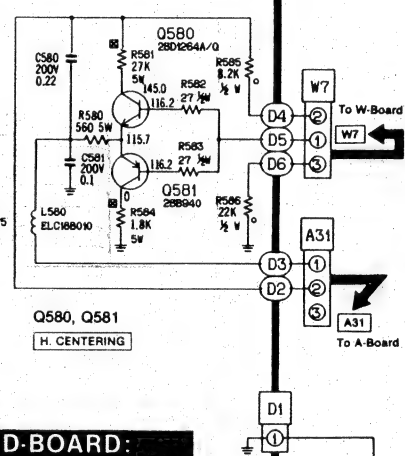
Q-BOARD: TNP800541ZA

S-Video SIGNAL OUT CIRCUIT



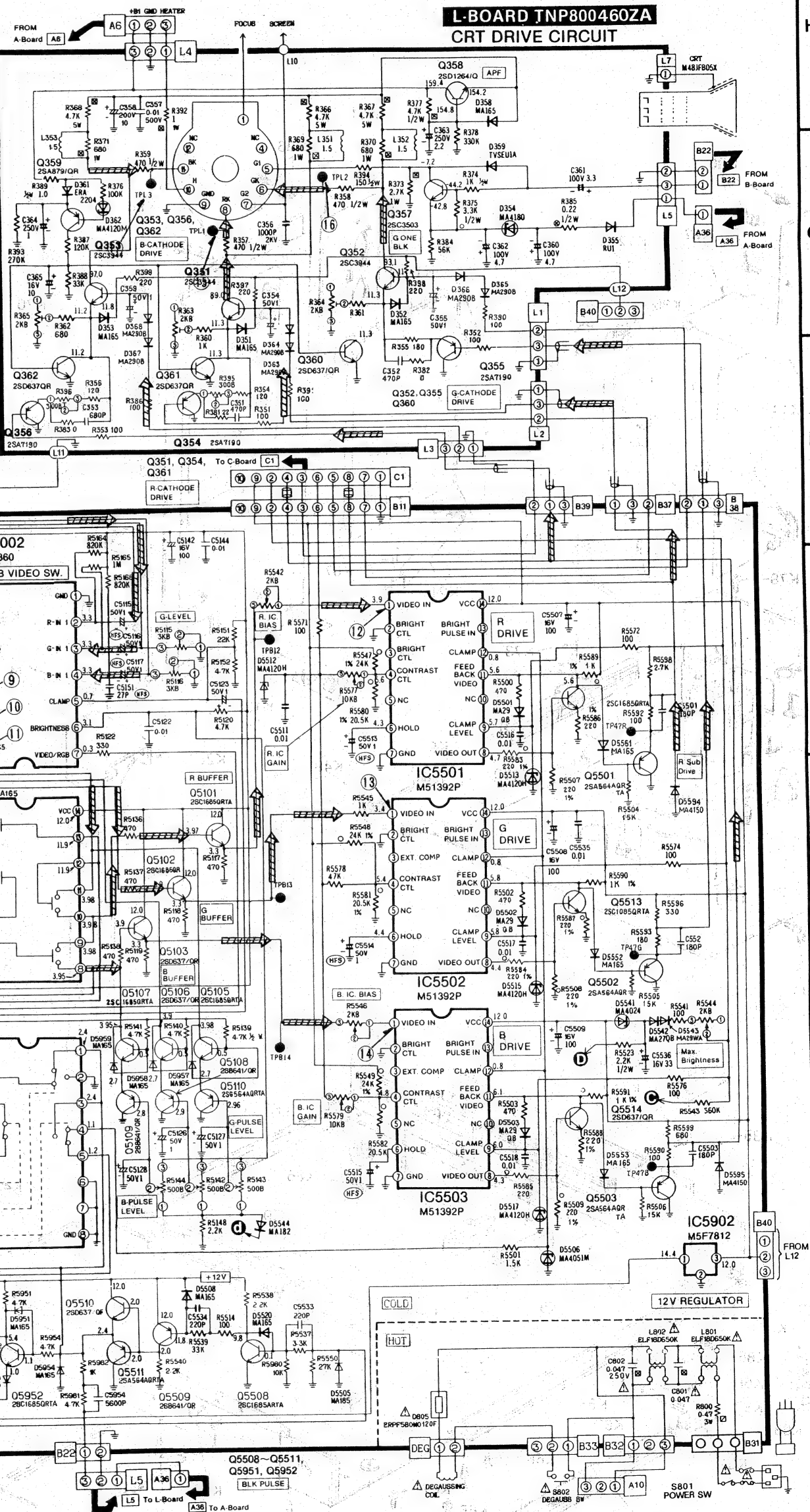
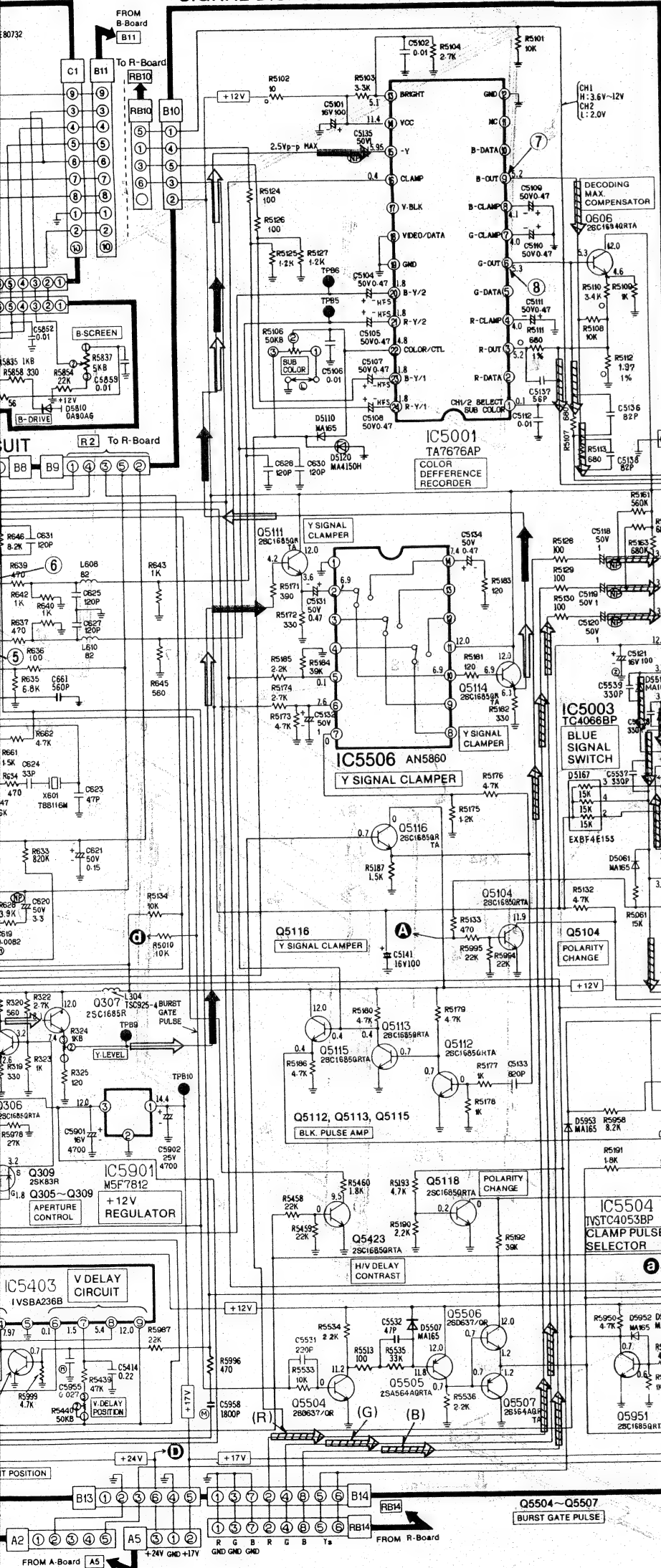
D-BOARD:

TNP100467ZA
PINCUSHION
CORRECTOR CIRCUIT



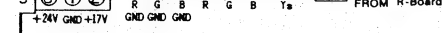
TO B-Board

B-BOARD: TNP800507ZA SIGNAL DISPOSITION CIRCUIT



Power cord
 • BT-D2020PYG
 TSX3105
 • BT-D2020PY
 TSX3104

SIGNAL DISPOSITION CIRCUIT

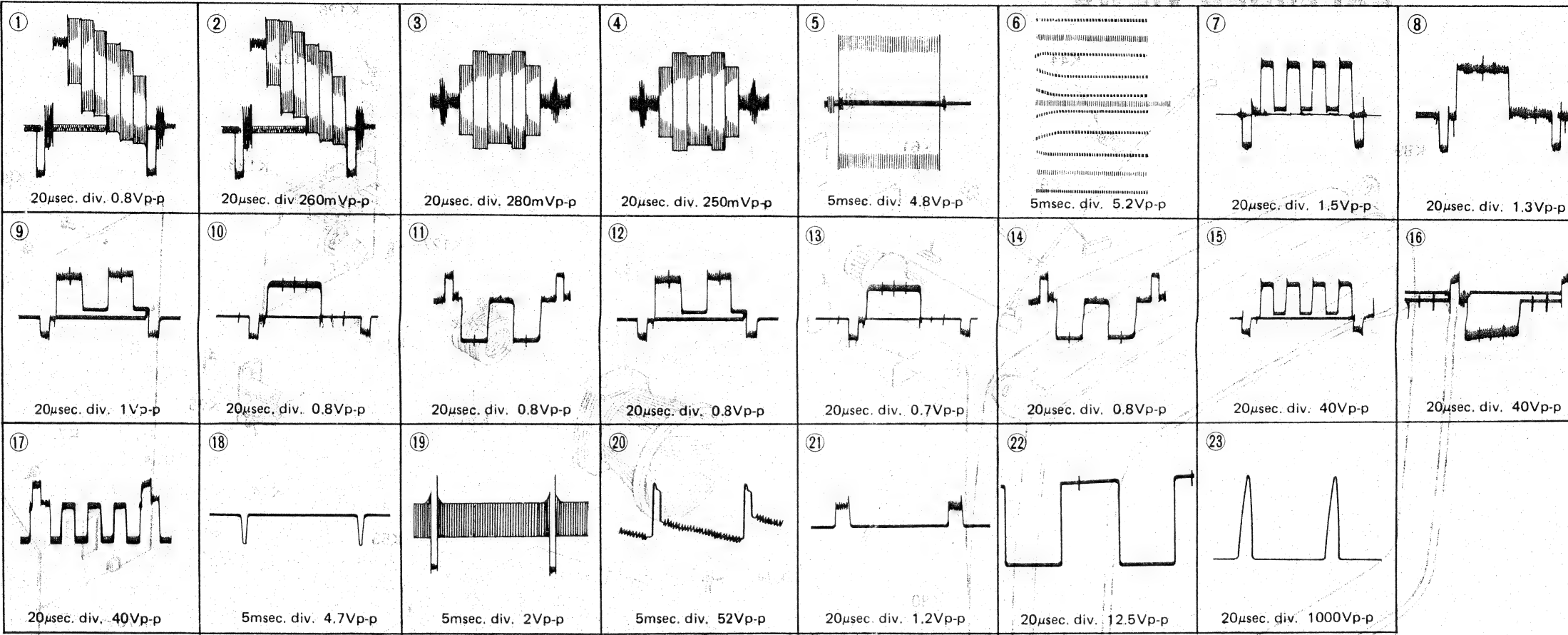


CRT DRIVE CIRCUIT

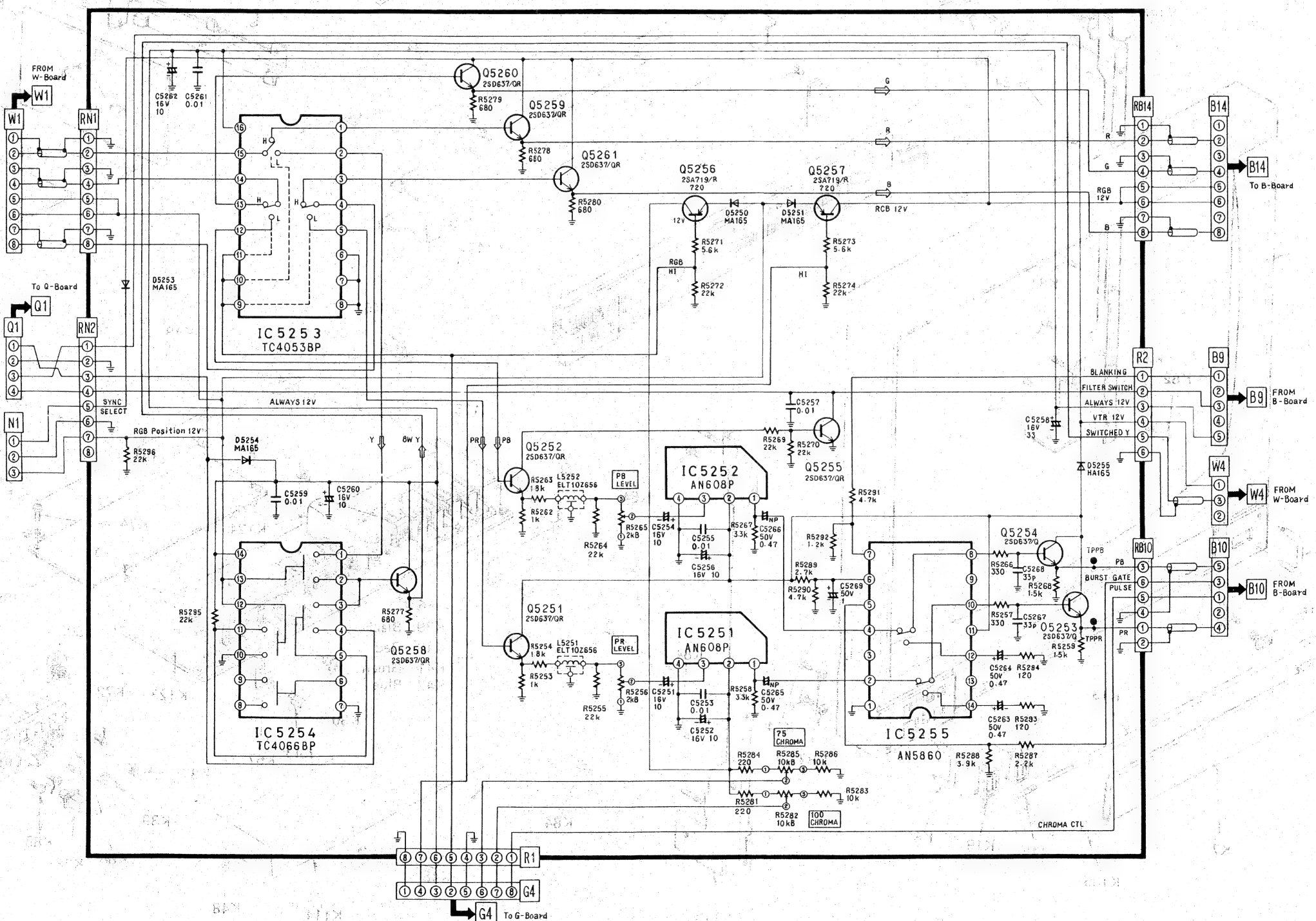


- BT-D2020PYG
TSX3105
- BT-D2020PY
TSX3104

WAVEFORM PATTERN TABLE

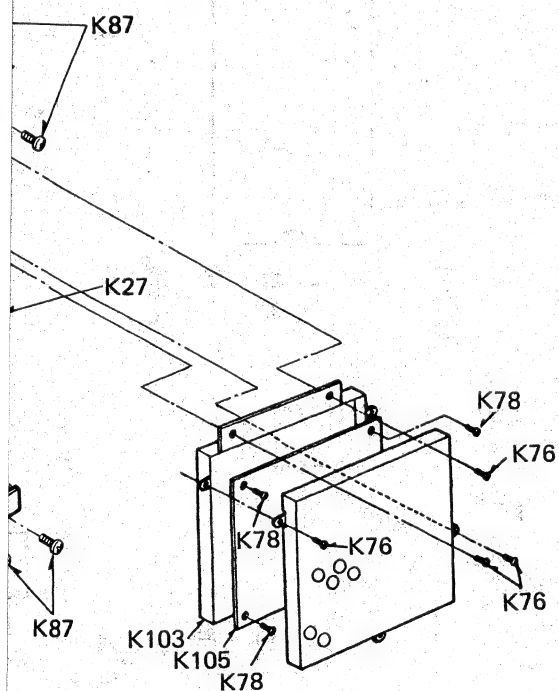
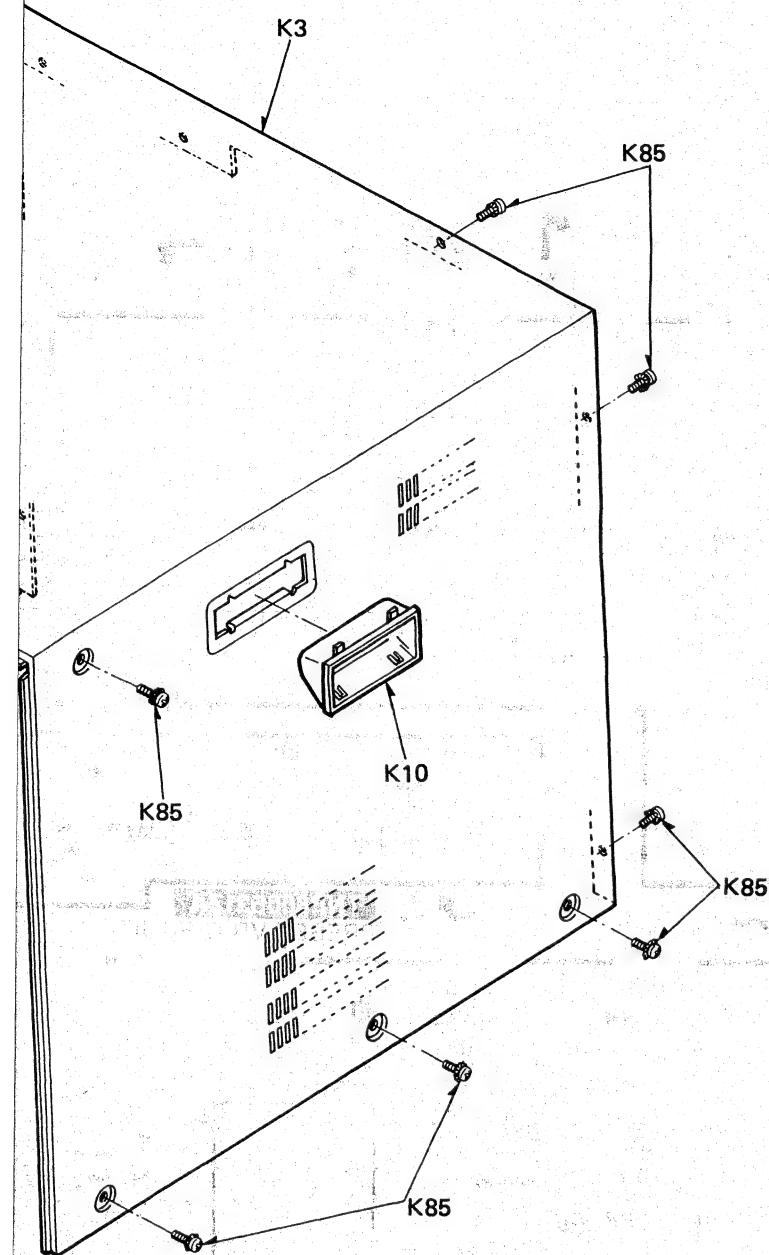


R-BOARD:
TNP800374BC
DIFFERENCE COLOUR CIRCUIT



REFORM PATTERNS TABLE





REPLACEMENT PARTS LIST

Important Safety Notice

Components identified by the International symbol Δ have special characteristics important for safety. When replacing any of these components use only manufacture's specified Parts.

Abbreviation of Part Name and Description

1. Resistor

Example:

ERD25TJ104 C 100KOHM, J, 1/4W
TYPE ALLOWANCE

TYPE	ALLOWANCE
C : Carbon	F : $\pm 1\%$
F : Fuse	G : $\pm 2\%$
M : Metal Oxide	J : $\pm 5\%$
Metal Film	K : $\pm 10\%$
S : Solid	M : $\pm 20\%$
W : Wire Wound	

2. Capacitor

Example:

ECKF1H103ZF C 0.01PF, Z, 50V
TYPE ALLOWANCE

TYPE	ALLOWANCE
C : Ceramic	C : ± 0.25 pF
E : Electrolytic	D : ± 0.5 pF
P : Polyester	F : ± 1 pF
PP : Polypropylene	J : $\pm 5\%$
S : Styrol	K : $\pm 10\%$
T : Tantalum	L : $\pm 15\%$
	M : $\pm 20\%$
	P : $\pm 100\%$, -0%
	Z : $\pm 80\%$, -20%

Note: For Y of Ref. No., not indicate illustration of it part on "Exploded Views".

Ref.No.			Part No.			Description		
			CABINET & MAIN PARTS					
Δ	K1	TKE8705L	ESCUTCHEON			K27	TUX87416-1	P.W. BOARD BRACKET (REAR)
	K2	TKU835707	REAR COVER			K103	TUX87420	SHIELD BRACKET
	K3	TKC871102-3	TRUNK PLATE			K28	TUX87501-3	CRT BRACKET (R)
	K4	TKC871302	BOTTOM PLATE			K29	TUX87502-3	CRT BRACKET (L)
					K30	TUX87505	RAIL BRACKET (A)	
	K5	TKC879901	BOTTOM PLATE COVER			K31	TUX87506	RAIL BRACKET (B)
	K6	TKP8710021-2	CONTROL PANEL ASSY			K32	TUX87507	RAIL BRACKET (C)
	K7	TKP8750033	DOOR			K147	TKZ870205-1	CRT BRACKET (UPPER)
	Y1	TKR87040	BRACKET (L)			K146	TKZ870206-1	CRT BRACKET (L)
	K8	TKR87050	HANDLE			K148	TKZ870207-1	CRT BRACKET (R)
Δ	Y2	TKR87060	BRACKET (R)			K33	TBL131303	SET LEG
	K102	TKX822101	P.W. BOARD HOLDER (SMALL)			K36	TBX8750201	KNOB (VOLUME)
	K9	TKX853101	P.W. BOARD HOLDER (BIG)			K37	TBX8780400	PUSH BUTTON (B)
	K10	TKK69248-5	HANDLE (BLACK)			K39	TBX8780600	PUSH BUTTON (DEGAUSS)
	K12	TKK870407-3	TERMINAL BOARD BRACKET			K40	TBX8780601	PUSH BUTTON (RED)
	K13	TKK870408	DOOR SHAFT			K41	TBX8780602	PUSH BUTTON (GREEN)
	K11	TKK870412	S-VIDEO TERMINAL BRACKET			K42	TBX8780603	PUSH BUTTON (BLUE)
	K14	TKK870504	FBT VOLUME			K38	TBX8780800	PUSH BUTTON (POWER)
	K15	TKK870505-2	DOOR CATCH			K43	TBX8790300	LEVER KNOB
	Y3	TKK878403	RAIL BRACKET (A)			K44	TES4211	COIL SPRING
Δ	Y4	TKK878404	RAIL BRACKET (B)			K45	TES8298	SPRING
	Y5	TKK878405	RAIL BRACKET (C)			K46	TEK17918	SWITCH
	Y6	TKK878406	RAIL BRACKET (D)			Y7	TMM1455	BEADS BAND
	K18	VGK1512	DEGAUSS BUTTON GUIDE			K48	TMM1459	CLIP
	K19	VGK1595	POWER BUTTON GUIDE			K97	TMM16422	W. CLAMPER
	K98	TUW87315N	POWER SWITCH BRACKET			Y8	TMM16473-1	CLAMPER
	K101	TUX80701-2	CORD BRACKET (BIG)			K49	TMM17474	DOUBLE CLAMPER
	K20	TUX80971	CORD BRACKET			K50	TMM17553	DY WEDGE
	K21	TUX87107	CHASSIS BRACKET			K51	TMM407-4	CRT RUBBER
	K22	TUX87409	P.W. BOARD BRACKET (UPPER)			Y9	TMM6463	CLAMPER
Δ	K23	TUX87411	P.W. BOARD BRACKET (BOTTOM)			Y10	TMM7468	CLAMPER
	K24	TUX87413-1	P.W. BOARD BRACKET (UPPER)			K52	TMM81416	CORD BAND (SMALL)
	K25	TUX87414	P.W. BOARD BRACKET (BOTTOM)			Y11	TMM81417	CORD BAND (BIG)
	K26	TUX87415-1	P.W. BOARD BRACKET			Y12	TMM83403	DNK CLAMPER
					Y13	TMM85461	BARRIER	
					Y14	TMM85552	CRT RUBBER	
					Y15	TMK81751	DOOR SHAFT HOLDER	

[illegible]

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
IC5504	TC4053BP	INTEGRATED CIRCUIT	Q5104	2SC1685Q	TRANSISTOR
IC5506	AN5860	INTEGRATED CIRCUIT	Q5105	2SC1685Q	TRANSISTOR
IC5601	TVSTC4066BP	INTEGRATED CIRCUIT	Q5106	2SD637R	TRANSISTOR
IC5901	M5F7812	INTEGRATED CIRCUIT	Q5107	2SC1685Q	TRANSISTOR
			Q5108	2SB641R	TRANSISTOR
IC5902	M5F7812	INTEGRATED CIRCUIT	Q5109	2SB641R	TRANSISTOR
	TRANSISTORS		Q5110	2SA564AQ	TRANSISTOR
Q300	2SC1685Q	TRANSISTOR	Q5111	2SC1685Q	TRANSISTOR
Q301	2SC1215S	TRANSISTOR	Q5112	2SC1685Q	TRANSISTOR
Q302	2SC1684Q	TRANSISTOR	Q5113	2SC1685Q	TRANSISTOR
Q303	2SC1684Q	TRANSISTOR			
Q304	2SC1684Q	TRANSISTOR	Q5114	2SC1685Q	TRANSISTOR
Q305	2SC1684Q	TRANSISTOR	Q5115	2SC1685Q	TRANSISTOR
Q306	2SC1684Q	TRANSISTOR	Q5116	2SC1685Q	TRANSISTOR
Q307	2SC1684Q	TRANSISTOR	Q5118	2SC1685Q	TRANSISTOR
Q308	2SD636R	TRANSISTOR	Q5201	2SD637R	TRANSISTOR
Q309	2SK83R	TRANSISTOR			
Q310	2SC1685Q	TRANSISTOR	Q5202	2SD637R	TRANSISTOR
Q351	2SC3944A	TRANSISTOR	Q5203	2SD637R	TRANSISTOR
Q352	2SC3944A	TRANSISTOR	Q5251	2SD637R	TRANSISTOR
Q353	2SC3944A	TRANSISTOR	Q5252	2SD637R	TRANSISTOR
Q354	2SA719Q	TRANSISTOR	Q5253	2SD637Q	TRANSISTOR
Q355	2SA719Q	TRANSISTOR	Q5254	2SD637Q	TRANSISTOR
Q356	2SA719Q	TRANSISTOR	Q5255	2SD637R	TRANSISTOR
Q357	2SC3503	TRANSISTOR	Q5256	2SA719	TRANSISTOR
Q358	2SD1264Q	TRANSISTOR	Q5257	2SA719	TRANSISTOR
Q359	2SA879Q	TRANSISTOR	Q5258	2SD637R	TRANSISTOR
Q360	2SD637R	TRANSISTOR	Q5259	2SD637R	TRANSISTOR
Q361	2SD637R	TRANSISTOR	Q5260	2SD637R	TRANSISTOR
Q362	2SD637R	TRANSISTOR	Q5261	2SD637R	TRANSISTOR
Q450	2SD636R	TRANSISTOR	Q5303	2SD637R	TRANSISTOR
Q501	UN1212	TRANSISTOR	Q5305	2SD636R	TRANSISTOR
Q503	2SC1683Q	TRANSISTOR	Q5306	2SD637R	TRANSISTOR
Q505	2SD637R	TRANSISTOR	Q5307	2SD637R	TRANSISTOR
Q550	2SD1732	TRANSISTOR	Q5401	2SC1685Q	TRANSISTOR
Q580	2SD1264AQLB	TRANSISTOR	Q5402	2SD637R	TRANSISTOR
Q581	2SB940Q	TRANSISTOR	Q5403	2SB641R	TRANSISTOR
Q601	2SC1684Q	TRANSISTOR	Q5404	2SC1685Q	TRANSISTOR
Q602	UN1212	TRANSISTOR	Q5406	2SC1685Q	TRANSISTOR
Q605	2SC1684Q	TRANSISTOR	Q5407	2SC1685Q	TRANSISTOR
Q606	2SC1684Q	TRANSISTOR	Q5408	2SB641R	TRANSISTOR
Q751	2SD637R	TRANSISTOR	Q5409	2SC1685Q	TRANSISTOR
Q752	2SB642Q	TRANSISTOR	Q5410	2SC1685Q	TRANSISTOR
Q755	2SC1573ANC	TRANSISTOR	Q5411	2SD637R	TRANSISTOR
Q756	2SD637R	TRANSISTOR	Q5412	2SD637R	TRANSISTOR
Q757	2SD638R	TRANSISTOR	Q5413	2SA564AQ	TRANSISTOR
Q758	2SC1573QNC	TRANSISTOR	Q5414	2SC1685Q	TRANSISTOR
Q762	2SB750	TRANSISTOR	Q5416	2SC1685Q	TRANSISTOR
△ Q801	2SD1391	TRANSISTOR	Q5417	2SA564AQ	TRANSISTOR
△ Q802	2SA900R	TRANSISTOR	Q5418	2SC1685Q	TRANSISTOR
△ Q803	2SD637R	TRANSISTOR	Q5419	2SC1685Q	TRANSISTOR
Q804	2SC1383NC	TRANSISTOR	Q5420	2SC1685Q	TRANSISTOR
Q5001	2SC1684Q	TRANSISTOR	Q5421	2SC1685Q	TRANSISTOR
Q5003	2SC1684Q	TRANSISTOR	Q5423	2SC1685Q	TRANSISTOR
Q5004	2SC1684Q	TRANSISTOR	Q5501	2SA564AQ	TRANSISTOR
Q5005	2SC1215S	TRANSISTOR	Q5502	2SA564AQ	TRANSISTOR
Q5006	2SC1684Q	TRANSISTOR	Q5503	2SA564AQ	TRANSISTOR
Q5007	2SC1684Q	TRANSISTOR	Q5504	2SD637R	TRANSISTOR
Q5101	2SC1685Q	TRANSISTOR	Q5505	2SA564AQ	TRANSISTOR
Q5102	2SC1685Q	TRANSISTOR	Q5506	2SD637R	TRANSISTOR
Q5103	2SD637R	TRANSISTOR	Q5507	2SA564AQ	TRANSISTOR
			Q5508	2SC1685Q	TRANSISTOR
			Q5509	2SB641R	TRANSISTOR
			Q5510	2SD637R	TRANSISTOR

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
Q5511	2SA564AQ	TRANSISTOR	Δ D808	TVSES1	DIODE
Q5512	2SC1685Q	TRANSISTOR	D810	TVSQA206D	DIODE.SI
Q5513	2SC1685Q	TRANSISTOR	D811	TVSEH1Z	DIODE.SI
Q5514	2SD637R	TRANSISTOR	D812	TVSEH1Z	DIODE.SI
Q5553	2SD637R	TRANSISTOR	D815	TVSRU2AM	DIODE
Q5554	2SB642Q	TRANSISTOR	D816	TVSRU2AM	DIODE
Q5601	2SC1215S	TRANSISTOR	D817	TVSRU2AM	DIODE
Q5602	2SC1215S	TRANSISTOR	D818	TVSRU2AM	DIODE
Q5603	2SC1215S	TRANSISTOR	D819	TVSRU2AM	DIODE
Q5604	2SD637R	TRANSISTOR	D822	TVSRU2AM	DIODE
Q5605	2SC1215S	TRANSISTOR	D825	ERTD7FFK8RO	THERMISTOR
Q5606	2SC1215S	TRANSISTOR	D5001	MA154WA	DIODE
Q5607	2SC1215S	TRANSISTOR	D5010	MA4150M	DIODE.SI
Q5609	2SD637R	TRANSISTOR	D5061	MA165	DIODE
Q5610	2SD637R	TRANSISTOR	D5110	MA165	DIODE
Q5611	2SD637R	TRANSISTOR	D5120	MA4150H	DIODE.SI
Q5801	2SD637R	TRANSISTOR	D5201	OA90AG	DIODE.SI
Q5802	2SD1264PLB	TRANSISTOR	D5202	OA90AG	DIODE.SI
Q5803	2SA564AQ	TRANSISTOR	D5203	MA150	DIODE
Q5951	2SC1685Q	TRANSISTOR	D5204	MA150	DIODE
Q5952	2SC1685Q	TRANSISTOR	D5250	MA165	DIODE
Q5953	2SC1685Q	TRANSISTOR	D5251	MA165	DIODE
DIODES			D5252	MA165	DIODE
D301	MA4082M	DIODE	D5253	MA165	DIODE
D351	MA165	DIODE	D5254	MA165	DIODE
D352	MA165	DIODE	D5255	MA165	DIODE
D353	MA165	DIODE	D5302	MA165	DIODE
D354	MA4180	DIODE.SI	D5303	MA27WB	DIODE
D355	TVSRU1	DIODE	D5304	MA27WB	DIODE
D358	MA165	DIODE	D5305	MA154WA	DIODE
D359	TVSEU1A	DIODE	D5401	OA90AM	DIODE.SI
D361	ERA22-04	DIODE.SI	D5402	OA90AM	DIODE.SI
D362	MA4120M	DIODE.SI	D5403	MA4030	DIODE.SI
D364	MA165	DIODE	D5404	OA90AM	DIODE.SI
D366	MA165	DIODE	D5405	MA165	DIODE
D368	MA165	DIODE	D5406	MA165	DIODE
D372	MA4150M	DIODE.SI	D5471	MA165	DIODE
D402	MA166	DIODE.SI	D5472	MA165	DIODE
D404	MA165	DIODE	D5473	MA4062M	DIODE
D451	TVSEM1Z	DIODE.SI	D5474	MA4062M	DIODE
D510	MA150	DIODE	D5475	MA165	DIODE
Δ D553	RH4F	DIODE.SI	D5501	MA29QB	DIODE.SI
Δ D554	RH4F	DIODE.SI	D5502	MA29QB	DIODE.SI
D556	MA161	DIODE	D5503	MA29QB	DIODE.SI
D557	TVSRF1A	DIODE.SI	D5505	MA165	DIODE
D558	TVSRU2AM	DIODE	D5506	MA4051M	DIODE
D559	MA182	DIODE	D5507	MA165	DIODE
Δ D561	TVSEM1Z	DIODE.SI	D5508	MA165	DIODE
D562	MA182	DIODE	D5509	MA165	DIODE
D563	MA4360H	DIODE.SI	D5510	MA165	DIODE
D622	MA27QB	DIODE	D5511	MA165	DIODE
D755	MA4091M	DIODE.SI	D5512	MA4120H	DIODE.SI
D756	MA165	DIODE	D5513	MA4120H	DIODE.SI
D757	MA4030M	DIODE.SI	D5515	MA4120H	DIODE.SI
D771	MA162	DIODE	D5517	MA4120H	DIODE.SI
Δ D801	TVSCO508	DIODE.SI	D5520	MA165	DIODE
Δ D802	TVSCO508	DIODE.SI	D5541	MA4024H	DIODE.SI
Δ D803	TVSCO508	DIODE.SI			
Δ D804	TVSCO508	DIODE.SI			
Δ D805	ERPF5BOM120F	POSISTOR			
Δ D807	TVSES1Z	DIODE.SI			

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
D5542	MA165	DIODE	L607	TLK158066	DEGAUSS COIL
D5542	MA29QB	DIODE.SI	L608	TLT820J991K	PEAKING COIL
D5544	MA182	DIODE	L610	TLT820J991K	PEAKING COIL
D5551	MA165	DIODE	L611	TLT220J991K	PEAKING COIL
D5552	MA165	DIODE	Δ L751	TLH13711	CHOKE COIL
D5553	MA165	DIODE	Δ L801	ELF18D650K	LINE FILTER
D5594	MA1150M	DIODE	Δ L802	ELF18D650K	LINE FILTER
D5595	MA4150M	DIODE.SI	Δ L805	ELC12B002	CHOKE COIL
D5601	OA90AG	DIODE.SI	L5004	TLK61008-1	DEGAUSS COIL
D5602	OA90AG	DIODE.SI	L5201	ELT10Z522	COIL TRANS
D5603	OA90AG	DIODE.SI	L5251	ELT10Z656	COIL TRANS
D5604	MA4150H	DIODE.SI	L5252	ELT10Z656	COIL TRANS
D5650	OA90AG	DIODE.SI	L5402	TLT272J991	PEAKING COIL
D5651	OA90AG	DIODE.SI	LC5001	TLK66056-1	DEGAUSS COIL
D5652	OA90AG	DIODE.SI	Δ T501	ETH19K52AY	TRANS
D5653	MA165	DIODE	Δ T551	TLF84202B	FLYBACK TRANS
D5654	MA150	DIODE	Δ T801	ETS49K423A	TRANS
D5655	MA165	DIODE	Δ T802	ETE16Z29AY	TRANS
D5656	MA165	DIODE	CAPACITORS		
D5657	MA165	DIODE	C301	ECEA1HN4R7S	E 4.7UF 50V
D5658	MA165	DIODE	C302	ECEA1CU101	E 100UF 16V
D5659	MA165	DIODE	C303	ECEA1HFS2R2	E 2.2UF 50V
D5801	LN31CPHLUGS	DIODE(LED)	C305	ECEA1CU331	E 330UF 16V
D5802	LN31CPHLUGS	DIODE(LED)	C306	ECEA1CFS470	E 47UF 16V
D5804	MA165	DIODE	C307	ECCF1H390JC	C 39PF J 50V
D5805	MA170	DIODE	C308	ECEA1EN4R7S	E 4.7UF 25V
D5806	MA170	DIODE	C309	ECKF1H103ZF	C 0.01UF Z 50V
D5807	MA4200	DIODE.SI	C351	ECCF1H471J	C 470PF J 50V
D5808	LN0603YP4	DIODE(LED)	C352	ECCF1H471J	C 470PF J 50V
D5812	OA90AG	DIODE.SI	C353	ECCF1H471J	C 470PF J 50V
D5814	MA182	DIODE	C354	ECEA1HU010	E 1UF 50V
D5815	MA4036M	DIODE.SI	C355	ECEA1HGE010	E 1UF 50V
D5950	MA165	DIODE	C356	ECKC3D102JBN	C 1000PF J 2KV
D5951	MA165	DIODE	C357	ECKD2H103PU	C 0.01UF P 500V
D5952	MA165	DIODE	C358	ECEA2DS100	E 10UF 200V
D5953	MA165	DIODE	C359	ECEA1HGE010	E 1UF 50V
D5954	MA165	DIODE	C360	ECEA2AU4R7	E 4.7UF 100V
D5956	MA165	DIODE	C361	ECEA2AU3R3	E 3.3UF 100V
D5957	MA165	DIODE	C362	ECEA2AU4R7	E 4.7UF 100V
D5958	MA165	DIODE	C363	ECEA2ES2R2	E 2.2UF 250V
D5959	MA165	DIODE	C364	ECEA2ES010	E 1UF 250V
D5962	MA182	DIODE	C365	ECEA1CGE100	E 10UF 16V
COIL & TRANSFORMERS			C401	ECQM1H273JZ	P 0.027UF J 50V
L301	ELT10Z644	COIL TRANS	C402	ECEA1CU221	E 220UF 16V
L302	ELT10Z511	COIL TRANS	C403	ECSF16E3R3Y	T 3.3UF 16V
L303	ELT10Z511	COIL TRANS	C404	ECSF16E3R3Y	T 3.3UF 16V
L304	TSC925-4	FERRITE CORE	C405	ECEA1CN101S	E 100UF 16V
L351	TLT1R5J991	PEAKING COIL	C406	ECQM1H563JV	P 0.056UF J 50V
L352	TLT1R5J991	PEAKING COIL	C411	ECKF1H103ZF	C 0.01UF Z 50V
L353	TLT1R5J991	PEAKING COIL	C450	ECEA1VU100	E 10UF 35V
L401	TLQ181K126	PEAKING COIL	C451	ECEA1HNO10S	E 1UF 50V
L552	ELH5L726	COIL	C452	ECEA1VU101	E 100UF 35V
L553	TLT100K119C	PEAKING COIL	C453	ECQM1H104JV	P 0.1UF J 50V
L561	TSC925-4	FERRITE CORE	C454	ECKD2H182KB2	C 1800PF K 500V
L562	TSC925-4	FERRITE CORE	C455	ECQM1473KZ	P 0.047UF K 100V
L580	ELC18B010	CHOKE COIL	C456	ECEA1HFS2R2	E 2.2UF 50V
L601	TLT150J991K	PEAKING COIL	C457	ECEA1VFS100	E 10UF 35V
L602	TLT120J991K	PEAKING COIL	C458	ECEA1EU222	E 2200UF 25V
L605	TLT082J991K	PEAKING COIL	C459	ECEA1VU471	E 470UF 35V
L606	EFDEN645A11G	DELAY LINE	C460	ECEA1HFS4R7	E 4.7UF 50V
			C501	ECEA1HU010	E 1UF 50V

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
C502	ECEA1HU4R7	E 4.7UF 50V	C751	ECQM1H124JZ	P 0.12UF J 50V
C503	ECQM1H333JV	P 0.033UF J 50V	C752	ECQM1H124JZ	P 0.12UF J 50V
C504	ECQM1H473JZ	P 0.047UF J 50V	C753	ECQV1H474JZ	P 0.47UF J 50V
C505	ECQM1H103JV	P 0.01UF J 50V	C754	ECCF1H181J	C 180PF J 50V
C508	ECEA1CU101	E 100UF 16V	C755	ECEA1EU470	E 47UF 25V
C509	ECEA1CU100	E 10UF 16V	C756	ECEA1AU471	E 470UF 10V
C510	ECQM1H682JZ	P 6800PF J 50V	C757	ECEA1VGE331	E 330UF 35V
C512	ECEA1HU010	E 1UF 50V	C758	ECEA1CU470	E 47UF 16V
C513	ECQK1122JZ	P 1200PF J 100V	C759	ECEA63W22Q	E 22UF 63V
C514	ECQM1H183JZ	P 0.018UF J 50V	C761	ECEA1EU100	E 10UF 25V
C516	ECQM1H682JZ	P 6800PF J 50V	C762	ECEA1CU220	E 22UF 16V
C521	ECEA1EU101	E 100UF 25V	C763	ECKF1H103ZF	C 0.01UF Z 50V
C522	ECKF1H152KB	C 1500PF K 50V	C764	ECEA1CU100	E 10UF 16V
C523	ECEA1JU101	E 100UF 63V	C765	ECEA1CU101	E 100UF 16V
C525	ECCF1H560J	C 56PF J 50V	C766	ECEA1VU220	E 22UF 35V
C532	ECEA1EU4R7	E 4.7UF 25V	C767	ECQM1H392JZ	P 3900PF J 50V
C540	ECEA2ENO10	E 1UF 250V	C768	ECEA1HN220S	E 22UF 50V
△ C551	ECWH15H182JD	PP 1800PF J 1.5KV	△ C801	ECQU2A473MN	PP 0.047UF M 250V
△ C552	ECWH15H222JD	PP 2200PF J 1.5KV	△ C802	ECQU2A473MN	PP 0.047UF M 250V
△ C556	ECKD2H222KB2	C 2200PF K 500V	△ C805	ECKD2H472PU	C 4700PF P 500V
C561	ECWF2H824JZ	PP 0.82UF J 500V	△ C806	ECKD2H472PU	C 4700PF P 500V
△ C562	ECWH15H222JD	PP 2200PF J 1.5KV	△ C808	ECES2GH221	E 220UF 400V
△ C563	ECWH15H182JD	PP 1800PF J 1.5KV	C809	ECEA1EFS330	E 33UF 25V
△ C565	ECQM4562KZ	P 5600PF K 400V	C810	ECQM1H474JV	P 0.47UF J 50V
△ C566	ECQM4682KZ	P 6800PF K 400V	△ C811	ECKC3D471KBN	C 470PF K 2KV
C567	ECCF1H221JC	C 220PF J 50V	△ C812	ECQM2103KZ	P 0.01UF K 200V
C568	ECQM1H333JV	P 0.033UF J 50V	△ C815	ECKD2H472PU	C 4700PF P 500V
C569	ECQM1H683JV	P 0.068UF J 50V	△ C817	ECKD2H472PU	C 4700PF P 500V
C570	ECQM1H154JV	P 0.15UF J 50V	△ C820	ECKCNS472MEJ	C 4700PF M 25V
C573	ECEA1JU470	E 47UF 63V	C821	ECEA1EGE102	E 1000UF 25V
C574	ECQM1H222JV	P 2200PF J 50V	C826	ECKD2H102KB2	C 1000PF K 500V
C580	ECQM2224JZ	P 0.22UF J 200V	C829	ECQM1H562JZ	P 5600PF J 50V
C581	ECQM1H472JZ	P 4700PF J 50V	C831	ECKC3D561KBN	C 560PF K 2KV
C581	ECQM2104JZ	P 0.1UF J 200V	C832	ECEA2ES330	E 33UF 250V
△ C590	ECWH15H182JD	PP 1800PF J 1.5KV	C834	ECKD2H222KB2	C 2200PF K 500V
C601	ECCF1H220JC	C 22PF J 50V	C835	ECEA1VU101	E 100UF 35V
C602	ECCF1H470JC	C 47PF J 50V	C836	ECKD2H222KB2	C 2200PF K 500V
C606	ECCF1H101JC	C 100PF J 50V	C837	ECEA1CGE101	E 100UF 16V
C607	ECCF1H220JC	C 22PF J 50V	C838	ECKC3D561KBN	C 560PF K 2KV
C608	ECCF1H221JC	C 220PF J 50V	C839	ECKD2H222KB2	C 2200PF K 500V
C609	ECCF1H221JC	C 220PF J 50V	C840	ECKD2H222KB2	C 2200PF K 500V
C610	ECCF1H390JC	C 39PF J 50V	C841	ECKD2H152KB2	C 1500PF K 500V
C611	ECQM1H103JV	P 0.01UF J 50V	C842	ECEA2DG220S	E 22UF 200V
C612	ECCF1H221JC	C 220PF J 50V	C856	ECQM2154KZ	P 0.15UF K 200V
C613	ECQM1H273JZ	P 0.027UF J 50V	C5002	ECKF1H103KB	C 0.01UF K 50V
C614	ECKF1H103ZF	C 0.01UF Z 50V	C5003	ECEA1CFS470	E 47UF 16V
C615	ECKF1H103ZF	C 0.01UF Z 50V	C5004	ECCF1H680JC	C 68PF J 50V
C616	ECEA1HUR47	E 0.47UF 50V	C5005	ECCF1H680JC	C 68PF J 50V
C617	ECEA1CU220	E 22UF 16V	C5013	ECEA1CU221	E 220UF 16V
C618	ECKF1H103ZF	C 0.01UF Z 50V	C5018	ECCF1H470JC	C 47PF J 50V
C619	ECQM1H822JZ	P 8200PF J 50V	C5019	ECEA1CFS470	E 47UF 16V
C620	ECEA1HN3R3S	E 3.3UF 50V	C5020	ECKF1H223ZF	C 0.022UF Z 50V
C621	ECEA1HFSR15	E 0.15UF 50V	C5101	ECEA1CU101	E 100UF 16V
C623	ECCF1H470JC	C 47PF J 50V	C5102	ECKF1H103ZF	C 0.01UF Z 50V
C624	ECCF1H330JC	C 33PF J 50V	C5104	ECEA1HFSR47	E 0.47UF 50V
C625	ECCF1H121JC	C 120PF J 50V	C5105	ECEA1HFSR47	E 0.47UF 50V
C627	ECCF1H121JC	C 120PF J 50V	C5106	ECKF1H103ZF	C 0.01UF Z 50V
C628	ECCF1H121JC	C 120PF J 50V	C5107	ECEA1HFSR47	E 0.47UF 50V
C630	ECCF1H121JC	C 120PF J 50V	C5108	ECEA1HFSR47	E 0.47UF 50V
C631	ECCF1H121JC	C 120PF J 50V	C5109	ECEA1HUR47	E 0.47UF 50V
C632	ECCF1H151JC	C 150PF J 50V	C5110	ECEA1HUR47	E 0.47UF 50V
C661	ECCF1H561J	C 560PF J 50V	C5111	ECEA1HUR47	E 0.47UF 50V

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
C5112	ECKF1H103ZF	C 0.01UF Z 50V	C5414	ECQM1H224JZ	P 0.22UF J 50V
C5115	ECEA1HFS010	E 1UF 50V	C5415	ECQM1H224JZ	P 0.22UF J 50V
C5116	ECEA1HFS010	E 1UF 50V	C5416	ECEA1HNO10S	E 1UF 50V
C5117	ECEA1HFS010	E 1UF 50V	C5423	ECCF1H121JC	C 120PF J 50V
C5118	ECEA1HNO10S	E 1UF 50V	C5425	ECQM1H183JZ	P 0.018UF J 50V
C5119	ECEA1HNO10S	E 1UF 50V	C5430	ECCF1H221J	C 220PF J 50V
C5120	ECEA1HNO10S	E 1UF 50V	C5471	ECQP1H471JZ	PP 470PF J 50V
C5121	ECEA1CU101	E 100UF 16V	C5472	ECQM1H272JZ	P 2700PF J 50V
C5122	ECKF1H103ZF	C 0.01UF Z 50V	C5473	ECKF1H103ZF	C 0.01UF Z 50V
C5123	ECEA1HU010	E 1UF 50V	C5474	ECKF1H103ZF	C 0.01UF Z 50V
C5124	ECKF1H103ZF	C 0.01UF Z 50V	C5475	ECQP1H122JZ	PP 1200PF J 50V
C5125	ECEA1CU101	E 100UF 16V	C5476	ECQP1H391JZ	PP 390PF J 50V
C5126	ECEA1HU010	E 1UF 50V	C5477	ECEA1CU330	E 33UF 16V
C5127	ECEA1HU010	E 1UF 50V	C5478	ECEA1CU101	E 100UF 16V
C5128	ECEA1HU010	E 1UF 50V	C5479	ECEA1CU330	E 33UF 16V
C5131	ECEA1HFSR47	E 0.47UF 50V	C5501	ECCF1H181JC	C 180PF J 50V
C5132	ECEA1HU010	E 1UF 50V	C5502	ECCF1H181JC	C 180PF J 50V
C5133	ECCF1H821J	C 820PF J 50V	C5503	ECCF1H181JC	C 180PF J 50V
C5134	ECEA1HUR47	E 0.47UF 50V	C5507	ECEA1CU101	E 100UF 16V
C5135	ECEA1HNO10S	E 1UF 50V	C5508	ECEA1CU101	E 100UF 16V
C5141	ECEA1CU101	E 100UF 16V	C5509	ECEA1CU101	E 100UF 16V
C5142	ECEA1CU101	E 100UF 16V	C5513	ECEA1HFS010	E 1UF 50V
C5144	ECKF1H103ZF	C 0.01UF Z 50V	C5514	ECEA1HFS010	E 1UF 50V
C5201	ECEA1CU330	E 33UF 16V	C5515	ECEA1HFS010	E 1UF 50V
C5202	ECEA1CU330	E 33UF 16V	C5516	ECKF1H103ZF	C 0.01UF Z 50V
C5203	ECQM1H473JZ	P 0.047UF J 50V	C5517	ECKF1H103ZF	C 0.01UF Z 50V
C5204	ECEA1CU100	E 10UF 16V	C5518	ECKF1H103ZF	C 0.01UF Z 50V
C5205	ECKF1H103ZF	C 0.01UF Z 50V	C5525	ECKF1H103ZF	C 0.01UF Z 50V
C5251	ECEA1CU100	E 10UF 16V	C5531	ECCF1H221JC	C 220PF J 50V
C5252	ECEA1CU100	E 10UF 16V	C5532	ECCF1H470JC	C 47PF J 50V
C5253	ECKF1H103ZF	C 0.01UF Z 50V	C5533	ECCF1H221J	C 220PF J 50V
C5254	ECEA1CU100	E 10UF 16V	C5534	ECCF1H221JC	C 220PF J 50V
C5255	ECKF1H103ZF	C 0.01UF Z 50V	C5535	ECKF1H103ZF	C 0.01UF Z 50V
C5256	ECEA1CU100	E 10UF 16V	C5536	ECEA1CU330	E 33UF 16V
C5257	ECKF1H103ZF	C 0.01UF Z 50V	C5601	ECEA1CKS470	E 47UF 16V
C5258	ECEA1CU330	E 33UF 16V	C5602	ECEA1CKS470	E 47UF 16V
C5259	ECKF1H103ZF	C 0.01UF Z 50V	C5603	ECEA1CKS470	E 47UF 16V
C5260	ECEA1CU100	E 10UF 16V	C5604	ECCF1H561J	C 560PF J 50V
C5261	ECKF1H103ZF	C 0.01UF Z 50V	C5605	ECCF1H561J	C 560PF J 50V
C5262	ECEA1CU100	E 10UF 16V	C5606	ECCF1H561J	C 560PF J 50V
C5263	ECEA1HUR47	E 0.47UF 50V	C5608	ECKF1H103ZF	C 0.01UF Z 50V
C5264	ECEA1HUR47	E 0.47UF 50V	C5609	ECEA1CU100	E 10UF 16V
C5265	ECEA1HNR47S	E 0.47UF 50V	C5651	ECEA1CKS470	E 47UF 16V
C5266	ECEA1HNR47S	E 0.47UF 50V	C5652	ECEA1CKS470	E 47UF 16V
C5267	ECCF1H330J	C 33PF J 50V	C5653	ECEA1CKS470	E 47UF 16V
C5268	ECCF1H330J	C 33PF J 50V	C5655	ECKF1H103ZF	C 0.01UF Z 50V
C5269	ECEA1HU010	E 1UF 50V	C5656	ECKF1H103ZF	C 0.01UF Z 50V
C5303	ECEA1CKS470	E 47UF 16V	C5657	ECKF1H103ZF	C 0.01UF Z 50V
C5304	ECEA1CFS470	E 47UF 16V	C5660	ECCF1H471J	C 470PF J 50V
C5305	ECEA1CU101	E 100UF 16V	C5702	ECEA1VFS100	E 10UF 35V
C5306	ECEA1AU102	E 1000UF 10V	C5703	ECEA1CU101	E 100UF 16V
C5310	ECCF1H561J	C 560PF J 50V	C5704	ECEA1CU221	E 220UF 16V
C5401	ECEA1CN470S	E 47UF 16V	C5706	ECKF1H331KB	C 330PF K 50V
C5402	ECEA1HNO10S	E 1UF 50V	C5807	ECKF1H103ZF	C 0.01UF Z 50V
C5405	ECEA1HU010	E 1UF 50V	C5808	ECKF1H103ZF	C 0.01UF Z 50V
C5406	ECQM1H153JZ	P 0.015UF J 50V	C5809	ECEA1CN100S	E 10UF 16V
C5407	ECQM1H153JZ	P 0.015UF J 50V	C5851	ECKF1H103ZF	C 0.01UF Z 50V
C5408	ECQM1H392JZ	P 3900PF J 50V	C5852	ECKF1H103ZF	C 0.01UF Z 50V
C5409	ECEA1HNO10S	E 1UF 50V	C5853	ECKF1H103ZF	C 0.01UF Z 50V
C5410	ECQP1H472JZ	PP 4700PF J 50V	C5901	ECEA1CU472	E 4700UF 16V
C5411	ECQP1H222JZ	PP 2200PF J 50V	C5902	ECEA1EU472	E 4700UF 25V
C5413	ECEA1HNO10S	E 1UF 50V	C5954	ECQM1H562JZ	P 5600PF J 50V

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
C5955	ECQM1H273JZ	P 0.027UF J 50V	R373	ERG1SJ272	M 2.7K OHM J 1W
C5956	ECQM1H332JZ	P 3300PF J 50V	R374	ERDS1FJ102	C 1K OHM J 1/2W
C5957	ECEA1CN100S	E 10UF 16V	R375	ERDS1FJ332	C 3.3K OHM J 1/2W
C5958	ECQM1H182JZ	P 1800PF J 50V	R376	ERDS2TJ104	C 100K OHM J 1/4W
RESISTORS			R377	ERDS1FJ472	C 4.7K OHM J 1/2W
R301	ERDS2TJ101	C 100 OHM J 1/4W	R378	ERDS2TJ334	C 330K OHM J 1/4W
R302	ERDS2TJ821	C 820 OHM J 1/4W	R381	ERDS2TJ220	C 22 OHM J 1/4W
R303	ERD25FJ100K	C 10 OHM J 1/4W	R384	ERDS2TJ563	C 56K OHM J 1/4W
R304	ERD25FJ102K	C 1K OHM J 1/4W	R385	ERQ12HKR22	F 0.22 OHM K 1/2W
R305	ERDS2TJ102	C 1K OHM J 1/4W	R386	ERDS2TJ101	C 100 OHM J 1/4W
R306	ERDS2TJ821	C 820 OHM J 1/4W	R387	ERDS2TJ124	C 120K OHM J 1/4W
R307	ERDS2TJ101	C 100 OHM J 1/4W	R388	ERDS2TJ333	C 33K OHM J 1/4W
R309	ERDS2TJ154	C 150K OHM J 1/4W	R389	ERQ12HJ1R0	F 1 OHM J 1/2W
R310	ERDS2TJ561	C 560 OHM J 1/4W	R390	ERDS2TJ101	C 100 OHM J 1/4W
R311	ERDS2TJ271	C 270 OHM J 1/4W	R391	ERDS2TJ101	C 100 OHM J 1/4W
R312	ERDS2TJ561	C 560 OHM J 1/4W	R392	ERQ1CJP1R0	F 1 OHM J 1W
R313	ERDS2TJ331	C 330 OHM J 1/4W	R393	ERDS2TJ274	C 270K OHM J 1/4W
R314	ERDS2TJ561	C 560 OHM J 1/4W	R394	ERC12GJ151	S 150 OHM J 1/2W
R315	ERDS2TJ223	C 22K OHM J 1/4W	R395	EVM4HGA00B32	CONTROL B 300 OHM
R316	ERDS2TJ103	C 10K OHM J 1/4W	R396	EVM4HGA00B32	CONTROL B 300 OHM
R317	ERDS2TJ471	C 470 OHM J 1/4W	R397	ERDS1FJ221	C 220 OHM J 1/2W
R318	ERDS2TJ331	C 330 OHM J 1/4W	R398	ERDS1FJ221	C 220 OHM J 1/2W
R319	ERDS2TJ331	C 330 OHM J 1/4W	R399	ERDS1FJ221	C 220 OHM J 1/2W
R320	ERDS2TJ561	C 560 OHM J 1/4W	R404	ERD25FJ220K	C 22 OHM J 1/4W
R321	ERDS2TJ471	C 470 OHM J 1/4W	R408	ERDS2TJ562	C 5.6K OHM J 1/4W
R322	ERDS2TJ272	C 2.7K OHM J 1/4W	R409	ERDS2TJ562	C 5.6K OHM J 1/4W
R323	ERDS2TJ102	C 1K OHM J 1/4W	R410	ERDS2TJ561	C 560 OHM J 1/4W
R324	EVM4HGA00B13	CONTROL B 1K OHM	R413	ERDS2TJ272	C 2.7K OHM J 1/4W
R325	ERDS2TJ121	C 120 OHM J 1/4W	R444	ERDS2TJ102	C 1K OHM J 1/4W
R326	EVM4HGA00B33	CONTROL B 3K OHM	R445	ERDS2TJ563	C 56K OHM J 1/4W
R327	ERDS2TJ101	C 100 OHM J 1/4W	R446	ERDS2TJ123	C 12K OHM J 1/4W
R328	ERDS2TJ101	C 100 OHM J 1/4W	R447	ERDS2TJ153	C 15K OHM J 1/4W
R329	EVM4HGA00B13	CONTROL B 1K OHM	R448	ERDS2TJ103	C 10K OHM J 1/4W
R330	ERDS2TJ332	C 3.3K OHM J 1/4W	R449	ERDS2TJ472	C 4.7K OHM J 1/4W
R331	ERDS2TJ152	C 1.5K OHM J 1/4W	R450	ERDS2TJ102	C 1K OHM J 1/4W
R333	ERD25FJ222K	C 2.2K OHM J 1/4W	R451	ERD25FJ153K	C 15K OHM J 1/4W
R350	ERDS2TJ101	C 100 OHM J 1/4W	R452	ERDS2TJ153	C 15K OHM J 1/4W
R354	ERDS2TJ121	C 120 OHM J 1/4W	R453	EVMKOGA00B14	CONTROL B 10K OHM
R355	ERDS2TJ181	C 180 OHM J 1/4W	R454	ERDS2TJ152	C 1.5K OHM J 1/4W
R356	ERDS2TJ121	C 120 OHM J 1/4W	R457	ERD25FJ562K	C 5.6K OHM J 1/4W
R357	ERC12GJ561	S 560 OHM J 1/2W	R458	ERDS1FJ1R5	C 1.5 OHM J 1/2W
R358	ERC12GJ561	S 560 OHM J 1/2W	R459	ERDS2TJ392	C 3.9K OHM J 1/4W
R359	ERC12GJ561	S 560 OHM J 1/2W	R460	ERDS2TJ392	C 3.9K OHM J 1/4W
R360	ERDS2TJ102	C 1K OHM J 1/4W	R461	ERDS1FJ102	C 1K OHM J 1/2W
R361	ERDS2TJ821	C 820 OHM J 1/4W	R501	ERDS2TJ152	C 1.5K OHM J 1/4W
R362	ERDS2TJ681	C 680 OHM J 1/4W	R502	ERDS2TJ104	C 100K OHM J 1/4W
R363	EVM4HGA00B23	CONTROL B 2K OHM	R503	ERDS2TJ332	C 3.3K OHM J 1/4W
R364	EVM4HGA00B23	CONTROL B 2K OHM	R506	EVM4HGA00B14	CONTROL B 10K OHM
R365	EVM4HGA00B23	CONTROL B 2K OHM	R508	ERDS2TJ333	C 33K OHM J 1/4W
R366	ERG5ZXJ472	M 4.7K OHM J 5W	R509	ERDS2TJ102	C 1K OHM J 1/4W
R367	ERG5ZXJ472	M 4.7K OHM J 5W	R510	ERDS2TJ393	C 39K OHM J 1/4W
R368	ERG5ZXJ472	M 4.7K OHM J 5W	R511	ERDS2TJ103	C 10K OHM J 1/4W
R369	ERG1SJ681	M 680 OHM J 1W	R512	ERDS2TJ821	C 820 OHM J 1/4W
R370	ERG1SJ681	M 680 OHM J 1W	R513	ERD25FJ102K	C 1K OHM J 1/4W
R371	ERG1SJ681	M 680 OHM J 1W	R514	ERDS2TJ103	C 10K OHM J 1/4W
R372	ERG1SJ681	M 680 OHM J 1W	R515	ERDS2TJ103	C 10K OHM J 1/4W
R373	ERG1SJ681	M 680 OHM J 1W	R516	ERDS2TJ102	C 1K OHM J 1/4W
R374	ERG1SJ681	M 680 OHM J 1W	R517	ERDS2TJ103	C 10K OHM J 1/4W
R375	ERG1SJ681	M 680 OHM J 1W	R518	ERDS2TJ272	C 2.7K OHM J 1/4W
R376	ERG1SJ681	M 680 OHM J 1W	R520	ERG1SJ101	M 100 OHM J 1W
R377	ERG1SJ681	M 680 OHM J 1W	R521	ERDS2TJ124	C 120K OHM J 1/4W
R378	ERG1SJ681	M 680 OHM J 1W	R524	ERF7ZJ151	W 150 OHM J 7W

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
R526	ERDS2TJ333	C 33K OHM J 1/4W	R661	ERDS2TJ152	C 1.5K OHM J 1/4W
R533	ERD25FJ103K	C 10K OHM J 1/4W	R662	ERDS2TJ472	C 4.7K OHM J 1/4W
R534	ERDS2TJ222	C 2.2K OHM J 1/4W	R671	ERDS2TJ221	C 220 OHM J 1/4W
R535	ERDS2TJ102	C 1K OHM J 1/4W	R750	ERD25FJ222K	C 2.2K OHM J 1/4W
R539	ERDS2TJ223	C 22K OHM J 1/4W	R751	ERDS2TJ103	C 10K OHM J 1/4W
R541	ERD25FJ103K	C 10K OHM J 1/4W	R752	ERDS2TJ124	C 120K OHM J 1/4W
R542	ERDS2TJ103	C 10K OHM J 1/4W	R753	ERDS2TJ563	C 56K OHM J 1/4W
R551	ERD25FJ184K	C 180K OHM J 1/4W	R754	ERDS2TJ473	C 47K OHM J 1/4W
R552	ERDS2TJ223	C 22K OHM J 1/4W	R755	ERDS2TJ473	C 47K OHM J 1/4W
R555	ERX2ANJ1R5	M 1.5 OHM J 2W	R756	ERDS2TJ103	C 10K OHM J 1/4W
R556	ERG1ANJ471	M 470 OHM J 1W	R757	ERDS2TJ102	C 1K OHM J 1/4W
R558	ERD25FJ682K	C 6.8K OHM J 1/4W	R760	ERD25FJ822K	C 8.2K OHM J 1/4W
R559	ERD25FJ222K	C 2.2K OHM J 1/4W	R762	ERDS2TJ103	C 10K OHM J 1/4W
R560	ERDS2TJ273	C 27K OHM J 1/4W	R763	ERDS2TJ223	C 22K OHM J 1/4W
R566	ERX1ANJP6R8	M 6.8 OHM J 1W	R764	ERDS1FJ101	C 100 OHM J 1/2W
R567	ERG1SJ102	M 1K OHM J 1W	R766	ERDS2TJ102	C 1K OHM J 1/4W
R570	ERDS2TJ122	C 1.2K OHM J 1/4W	R767	ERDS2TJ683	C 68K OHM J 1/4W
R576	ERDS2TJ332	C 3.3K OHM J 1/4W	R768	EVN38CA00B23	CONTROL B 2K OHM
R580	ERF5AJ561	W 560 OHM J 5W	R769	ERDS2TJ393	C 39K OHM J 1/4W
R581	ERF5AJ561	W 560 OHM J 5W	R770	ERDS2TJ392	C 3.9K OHM J 1/4W
R582	ERDS1FJ270	C 27 OHM J 1/2W	R771	ERDS2TJ123	C 12K OHM J 1/4W
R583	ERDS1FJ270	C 27 OHM J 1/2W	R772	ERDS2TJ182	C 1.8K OHM J 1/4W
R584	ERG5CJ182	M 1.8K OHM J 5W	R773	ERG1SJ391	M 390 OHM J 1W
R585	ERDS1FJ822	C 8.2K OHM J 1/2W	R774	ERDS1FJ563	C 56K OHM J 1/2W
R586	ERDS1FJ223	C 22K OHM J 1/2W	R775	ERDS2TJ273	C 27K OHM J 1/4W
R595	ERD25FJ335K	C 3.3M OHM J 1/4W	R776	ERDS1FJ821	C 820 OHM J 1/2W
R596	ERDS2TJ273	C 27K OHM J 1/4W	R777	ERG2SJ222	M 2.2K OHM J 2W
R600	ERD25FJ473K	C 47K OHM J 1/4W	R778	ERG2SJ222	M 2.2K OHM J 2W
R601	ERDS2TJ221	C 220 OHM J 1/4W	R779	ERDS1FJ122	C 1.2K OHM J 1/2W
R602	ERDS2TJ681	C 680 OHM J 1/4W	R780	ERDS1FJ682	C 6.8K OHM J 1/2W
R603	ERDS2TJ181	C 180 OHM J 1/4W	R782	ERDS2TJ682	C 6.8K OHM J 1/4W
R604	ERDS2TJ561	C 560 OHM J 1/4W	R783	ERDS2TJ562	C 5.6K OHM J 1/4W
R606	ERDS2TJ102	C 1K OHM J 1/4W	R784	ERDS2TJ153	C 15K OHM J 1/4W
R609	ERDS2TJ822	C 8.2K OHM J 1/4W	R786	ERDS1FJ561	C 560 OHM J 1/2W
R610	ERDS2TJ391	C 390 OHM J 1/4W	R800	ERF3AKR47	W 0.47 OHM K 3W
R611	ERDS2TJ391	C 390 OHM J 1/4W	△ R801	ERF7ZK4R7	W 4.7 OHM K 7W
R614	EVM4HGA00B33	CONTROL B 3K OHM	△ R803	ERG1SJ391	M 390 OHM J 1W
R615	ERD25FJ100K	C 10 OHM J 1/4W	R804	ERDS1TJ564	C 560K OHM J 1/2W
R616	ERDS2TJ224	C 220K OHM J 1/4W	△ R805	EROS2CKF2201	M 2.2K OHM F 1/4W
R617	ERDS2TJ561	C 560 OHM J 1/4W	△ R806	EVMK4GA00B52	CONTROL B 500 OHM
R618	ERDS2TJ102	C 1K OHM J 1/4W	△ R807	EROS2CKF1741	M 1.74K OHM F 1/4W
R619	EVM4HGA00B54	CONTROL B 50K OHM	△ R809	ERG3SJ330	M 33 OHM J 3W
R620	ERDS2TJ103	C 10K OHM J 1/4W	R810	ERG1ANJ683	M 68K OHM J 1W
R621	EVM4HGA00B52	CONTROL B 500 OHM	△ R811	ERF2AKR39	W 0.39 OHM K 2W
R622	ERDS2TJ681	C 680 OHM J 1/4W	△ R812	ERD75TAJ825	C 8.2M OHM J 3/4W
R625	ERDS2TJ221	C 220 OHM J 1/4W	R824	ERG3SJ151	M 150 OHM J 3W
R626	EVM4HGA00B14	CONTROL B 10K OHM	R833	ERQ12HKR22	F 0.22 OHM K 1/2W
R627	ERDS2TJ104	C 100K OHM J 1/4W	R834	ERG1SJ561	M 560 OHM J 1W
R628	ERDS2TJ392	C 3.9K OHM J 1/4W	R836	ERDS2TJ222	C 2.2K OHM J 1/4W
R633	ERD25FJ824K	C 820K OHM J 1/4W	R837	ERDS2TJ102	C 1K OHM J 1/4W
R634	ERDS2TJ471	C 470 OHM J 1/4W	R843	ERQ12HKR22	F 0.22 OHM K 1/2W
R635	ERDS2TJ682	C 6.8K OHM J 1/4W	R5001	ERDS2TJ471	C 470 OHM J 1/4W
R636	ERDS2TJ101	C 100 OHM J 1/4W	R5010	ERDS2TJ103	C 10K OHM J 1/4W
R637	ERDS2TJ471	C 470 OHM J 1/4W	R5010	MA4043M	DIODE SI
R639	ERD25FJ471K	C 470 OHM J 1/4W	R5011	ERDS2TJ561	C 560 OHM J 1/4W
R640	ERDS2TJ102	C 1K OHM J 1/4W	R5012	ERDS2TJ123	C 12K OHM J 1/4W
R642	ERDS2TJ102	C 1K OHM J 1/4W	R5013	ERDS2TJ562	C 5.6K OHM J 1/4W
R643	ERDS2TJ102	C 1K OHM J 1/4W	R5014	ERDS2TJ561	C 560 OHM J 1/4W
R645	ERDS2TJ102	C 1K OHM J 1/4W	R5015	ERDS2TJ561	C 560 OHM J 1/4W
R646	ERDS2TJ822	C 8.2K OHM J 1/4W	R5016	ERDS2TJ101	C 100 OHM J 1/4W
R647	ERDS2TJ562	C 5.6K OHM J 1/4W	R5017	ERDS2TJ102	C 1K OHM J 1/4W
R649	ERDS2TJ391	C 390 OHM J 1/4W	R5018	ERDS2TJ561	C 560 OHM J 1/4W

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
R5019	ERDS2TJ471	C 470 OHM J 1/4W	R5163	ERDS2TJ684	C 680K OHM J 1/4W
R5020	ERDS2TJ822	C 8.2K OHM J 1/4W	R5164	ERDS2TJ824	C 820K OHM J 1/4W
R5021	ERDS2TJ563	C 56K OHM J 1/4W	R5165	ERDS2TJ105	C 1M OHM J 1/4W
R5022	ERDS2TJ222	C 2.2K OHM J 1/4W	R5166	ERDS2TJ824	C 820K OHM J 1/4W
R5023	ERDS2TJ221	C 220 OHM J 1/4W	R5167	ERDS2TCO	C 0 OHM 1/4W
R5024	ERDS2TJ121	C 120 OHM J 1/4W	R5167	ERDS2TJ123	C 12K OHM J 1/4W
R5026	ERDS2TJ561	C 560 OHM J 1/4W	R5167	ERDS2TJ153	C 15K OHM J 1/4W
R5043	ERDS2TJ221	C 220 OHM J 1/4W	R5171	ERD25FJ391K	C 390 OHM J 1/4W
R5044	ERDS2TJ472	C 4.7K OHM J 1/4W	R5172	ERDS2TJ331	C 330 OHM J 1/4W
R5045	ERDS2TJ333	C 33K OHM J 1/4W	R5173	ERDS2TJ472	C 4.7K OHM J 1/4W
R5046	ERDS2TJ333	C 33K OHM J 1/4W	R5174	ERDS2TJ272	C 2.7K OHM J 1/4W
R5049	ECKF1H152KB	C 1500PF K 50V	R5175	ERDS2TJ122	C 1.2K OHM J 1/4W
R5049	ERDS2TJ562	C 5.6K OHM J 1/4W	R5176	ERDS2TJ472	C 4.7K OHM J 1/4W
R5050	ERDS2TJ223	C 22K OHM J 1/4W	R5177	ERDS2TJ102	C 1K OHM J 1/4W
R5051	ERDS2TJ102	C 1K OHM J 1/4W	R5178	ERDS2TJ102	C 1K OHM J 1/4W
R5052	ERDS2TJ101	C 100 OHM J 1/4W	R5179	ERDS2TJ472	C 4.7K OHM J 1/4W
R5061	ERDS2TJ153	C 15K OHM J 1/4W	R5180	ERDS2TJ472	C 4.7K OHM J 1/4W
R5101	ERDS2TJ103	C 10K OHM J 1/4W	R5181	ERDS2TJ121	C 120 OHM J 1/4W
R5103	ERDS2TJ332	C 3.3K OHM J 1/4W	R5182	ERDS2TJ331	C 330 OHM J 1/4W
R5104	ERDS2TJ272	C 2.7K OHM J 1/4W	R5183	ERDS2TJ121	C 120 OHM J 1/4W
R5106	EVM4HGA00B54	CONTROL B 50K OHM	R5184	ERDS2TJ393	C 39K OHM J 1/4W
R5107	ECCF1H820JC	C 82PF J 50V	R5185	ERDS2TJ222	C 2.2K OHM J 1/4W
R5107	ERDS2TJ681	C 680 OHM J 1/4W	R5186	ERDS2TJ472	C 4.7K OHM J 1/4W
R5108	ERDS2TJ103	C 10K OHM J 1/4W	R5187	ERDS2TJ152	C 1.5K OHM J 1/4W
R5109	ERDS2TJ102	C 1K OHM J 1/4W	R5190	ERDS2TJ222	C 2.2K OHM J 1/4W
R5110	EROS2CKF3401	M 3.4K OHM F 1/4W	R5191	ERD25FJ182K	C 1.8K OHM J 1/4W
R5111	ECCF1H680JC	C 68PF J 50V	R5192	ERDS2TJ393	C 39K OHM J 1/4W
R5111	EROS2CKF6800	M 680 OHM F 1/4W	R5193	ERDS2TJ472	C 4.7K OHM J 1/4W
R5112	EROS2CKF1371	M 1.37K OHM F 1/4W	R5195	ERD25FJ100K	C 10 OHM J 1/4W
R5113	ECCF1H560JC	C 56PF J 50V	R5201	ERD25FJ750K	C 75 OHM J 1/4W
R5113	ERDS2TJ681	C 680 OHM J 1/4W	R5202	ERD25FJ750K	C 75 OHM J 1/4W
R5115	EVM4HGA00B33	CONTROL B 3K OHM	R5203	ERDS2TJ331	C 330 OHM J 1/4W
R5116	EVM4HGA00B33	CONTROL B 3K OHM	R5204	ERDS2TJ331	C 330 OHM J 1/4W
R5117	ERDS2TJ471	C 470 OHM J 1/4W	R5205	ERDS2TJ563	C 56K OHM J 1/4W
R5118	ERDS2TJ471	C 470 OHM J 1/4W	R5206	ERDS2TJ563	C 56K OHM J 1/4W
R5119	ERDS2TJ471	C 470 OHM J 1/4W	R5207	ERDS2TJ563	C 56K OHM J 1/4W
R5120	ERD25FJ472K	C 4.7K OHM J 1/4W	R5208	ERDS2TJ563	C 56K OHM J 1/4W
R5122	ERDS2TJ331	C 330 OHM J 1/4W	R5209	ERDS2TJ821	C 820 OHM J 1/4W
R5124	ERDS2TJ101	C 100 OHM J 1/4W	R5210	ERDS2TJ821	C 820 OHM J 1/4W
R5125	ERDS2TJ122	C 1.2K OHM J 1/4W	R5211	ERDS2TJ223	C 22K OHM J 1/4W
R5126	ERDS2TJ101	C 100 OHM J 1/4W	R5212	ERDS2TJ223	C 22K OHM J 1/4W
R5127	ERDS2TJ122	C 1.2K OHM J 1/4W	R5213	ERDS2TJ561	C 560 OHM J 1/4W
R5128	ERDS2TJ101	C 100 OHM J 1/4W	R5214	ERDS2TJ151	C 150 OHM J 1/4W
R5129	ERDS2TJ101	C 100 OHM J 1/4W	R5215	ERDS2TJ102	C 1K OHM J 1/4W
R5130	ERDS2TJ101	C 100 OHM J 1/4W	R5216	EVM4HGA00B52	CONTROL B 500 OHM
R5132	ERDS2TJ472	C 4.7K OHM J 1/4W	R5217	ERDS2TJ471	C 470 OHM J 1/4W
R5133	ERDS2TJ471	C 470 OHM J 1/4W	R5253	ERDS2TJ102	C 1K OHM J 1/4W
R5134	ERDS2TJ103	C 10K OHM J 1/4W	R5254	ERDS2TJ182	C 1.8K OHM J 1/4W
R5136	ERDS2TJ471	C 470 OHM J 1/4W	R5255	ERDS2TJ223	C 22K OHM J 1/4W
R5137	ERD25FJ471K	C 470 OHM J 1/4W	R5256	EVM4HGA00B23	CONTROL B 2K OHM
R5138	ERDS2TJ471	C 470 OHM J 1/4W	R5257	ERDS2TJ331	C 330 OHM J 1/4W
R5139	ERDS1FJ472	C 4.7K OHM J 1/2W	R5258	ERDS2TJ332	C 3.3K OHM J 1/4W
R5140	ERDS2TJ472	C 4.7K OHM J 1/4W	R5259	ERDS2TJ152	C 1.5K OHM J 1/4W
R5141	ERDS2TJ472	C 4.7K OHM J 1/4W	R5262	ERDS2TJ102	C 1K OHM J 1/4W
R5142	EVM4HGA00B52	CONTROL B 500 OHM	R5263	ERDS2TJ182	C 1.8K OHM J 1/4W
R5143	EVM4HGA00B52	CONTROL B 500 OHM	R5264	ERDS2TJ223	C 22K OHM J 1/4W
R5144	EVM4HGA00B52	CONTROL B 500 OHM	R5265	EVM4HGA00B23	CONTROL B 2K OHM
R5148	ERDS2TJ222	C 2.2K OHM J 1/4W	R5266	ERDS2TJ331	C 330 OHM J 1/4W
R5151	ERDS2TJ223	C 22K OHM J 1/4W	R5267	ERDS2TJ332	C 3.3K OHM J 1/4W
R5152	ERDS2TJ472	C 4.7K OHM J 1/4W	R5268	ERDS2TJ152	C 1.5K OHM J 1/4W
R5161	ERDS2TJ564	C 560K OHM J 1/4W	R5269	ERDS2TJ223	C 22K OHM J 1/4W
R5162	ERDS2TJ684	C 680K OHM J 1/4W	R5270	ERDS2TJ223	C 22K OHM J 1/4W

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
R5271	ERDS2TJ562	C 5.6K OHM J 1/4W	R5428	ERDS2TJ183	C 18K OHM J 1/4W
R5272	ERDS2TJ223	C 22K OHM J 1/4W	R5429	EVM4HGA00B53	CONTROL B 5K OHM
R5273	ERDS2TJ562	C 5.6K OHM J 1/4W	R5430	ERDS2TJ103	C 10K OHM J 1/4W
R5274	ERDS2TJ223	C 22K OHM J 1/4W	R5431	ERDS2TJ101	C 100 OHM J 1/4W
R5277	ERDS2TJ681	C 680 OHM J 1/4W	R5432	ERDS2TJ391	C 390 OHM J 1/4W
R5278	ERDS2TJ681	C 680 OHM J 1/4W	R5433	ERDS2TJ391	C 390 OHM J 1/4W
R5279	ERDS2TJ681	C 680 OHM J 1/4W	R5434	ERDS2TJ472	C 4.7K OHM J 1/4W
R5280	ERDS2TJ681	C 680 OHM J 1/4W	R5435	ERDS2TJ474	C 470K OHM J 1/4W
R5281	ERDS2TJ221	C 220 OHM J 1/4W	R5436	ERDS2TJ472	C 4.7K OHM J 1/4W
R5282	EVM4HGA00B14	CONTROL B 10K OHM	R5437	ERDS2TJ223	C 22K OHM J 1/4W
R5283	ERDS2TJ103	C 10K OHM J 1/4W	R5438	ERDS2TJ472	C 4.7K OHM J 1/4W
R5284	ERDS2TJ221	C 220 OHM J 1/4W	R5439	ERDS2TJ473	C 47K OHM J 1/4W
R5285	EVM4HGA00B14	CONTROL B 10K OHM	R5440	EVM4HGA00B54	CONTROL B 50K OHM
R5286	ERDS2TJ103	C 10K OHM J 1/4W	R5441	ERDS2TJ683	C 68K OHM J 1/4W
R5287	ERDS2TJ222	C 2.2K OHM J 1/4W	R5442	ERDS2TJ472	C 4.7K OHM J 1/4W
R5288	ERDS2TJ392	C 3.9K OHM J 1/4W	R5443	ERDS2TJ471	C 470 OHM J 1/4W
R5289	ERDS2TJ272	C 2.7K OHM J 1/4W	R5444	ERDS2TJ102	C 1K OHM J 1/4W
R5290	ERDS2TJ472	C 4.7K OHM J 1/4W	R5445	ERDS2TJ102	C 1K OHM J 1/4W
R5291	ERDS2TJ472	C 4.7K OHM J 1/4W	R5446	ERDS2TJ823	C 82K OHM J 1/4W
R5292	ERDS2TJ122	C 1.2K OHM J 1/4W	R5447	ERDS2TJ823	C 82K OHM J 1/4W
R5295	ERDS2TJ223	C 22K OHM J 1/4W	R5448	ERDS2TJ471	C 470 OHM J 1/4W
R5296	ERDS2TJ223	C 22K OHM J 1/4W	R5449	ERDS2TJ103	C 10K OHM J 1/4W
R5309	ERDS2TJ331	C 330 OHM J 1/4W	R5450	ERDS2TJ103	C 10K OHM J 1/4W
R5310	ERDS2TJ393	C 39K OHM J 1/4W	R5451	ERDS2TJ221	C 220 OHM J 1/4W
R5311	ERDS2TJ183	C 18K OHM J 1/4W	R5452	ERDS2TJ221	C 220 OHM J 1/4W
R5312	ERDS2TJ122	C 1.2K OHM J 1/4W	R5453	ERDS2TJ102	C 1K OHM J 1/4W
R5313	ERDS2TJ222	C 2.2K OHM J 1/4W	R5454	ERDS2TJ562	C 5.6K OHM J 1/4W
R5314	ERD25FJ561K	C 560 OHM J 1/4W	R5455	ERDS2TJ472	C 4.7K OHM J 1/4W
R5315	ERD25FJ100K	C 10 OHM J 1/4W	R5456	ERDS2TJ103	C 10K OHM J 1/4W
R5317	ERDS2TJ331	C 330 OHM J 1/4W	R5458	ERDS2TJ223	C 22K OHM J 1/4W
R5319	ERDS2TJ331	C 330 OHM J 1/4W	R5459	ERDS2TJ223	C 22K OHM J 1/4W
R5320	ERDS2TJ750	C 75 OHM J 1/4W	R5460	ERDS2TJ182	C 1.8K OHM J 1/4W
R5321	ERDS2TJ103	C 10K OHM J 1/4W	R5461	ERDS2TJ471	C 470 OHM J 1/4W
R5327	ERDS2TJ103	C 10K OHM J 1/4W	R5470	ERDS2TJ392	C 3.9K OHM J 1/4W
R5328	ERDS2TJ331	C 330 OHM J 1/4W	R5472	ERDS2TJ822	C 8.2K OHM J 1/4W
R5329	ERD25FJ331K	C 330 OHM J 1/4W	R5473	ERDS2TJ822	C 8.2K OHM J 1/4W
R5330	ERDS2TJ472	C 4.7K OHM J 1/4W	R5474	ERDS2TJ122	C 1.2K OHM J 1/4W
R5331	ERDS2TJ223	C 22K OHM J 1/4W	R5475	ERDS2TJ822	C 8.2K OHM J 1/4W
R5401	ERDS2TJ101	C 100 OHM J 1/4W	R5476	ERD25FJ561K	C 560 OHM J 1/4W
R5402	ERDS2TJ222	C 2.2K OHM J 1/4W	R5477	ERDS2TJ682	C 6.8K OHM J 1/4W
R5403	ERDS2TJ222	C 2.2K OHM J 1/4W	R5478	ERDS2TJ822	C 8.2K OHM J 1/4W
R5404	ERDS2TJ391	C 390 OHM J 1/4W	R5479	ERDS2TJ392	C 3.9K OHM J 1/4W
R5405	ERDS2TJ101	C 100 OHM J 1/4W	R5480	ERDS2TJ562	C 5.6K OHM J 1/4W
R5406	ERDS2TJ124	C 120K OHM J 1/4W	R5501	ERDS2TJ152	C 1.5K OHM J 1/4W
R5407	ERDS2TJ152	C 1.5K OHM J 1/4W	R5504	ERD25FJ153K	C 15K OHM J 1/4W
R5409	ERDS2TJ152	C 1.5K OHM J 1/4W	R5505	ERDS2TJ153	C 15K OHM J 1/4W
R5410	ERDS2TJ102	C 1K OHM J 1/4W	R5506	ERDS2TJ153	C 15K OHM J 1/4W
R5411	ERDS2TJ392	C 3.9K OHM J 1/4W	R5507	EROS2CKF2200	M 220 OHM F 1/4W
R5412	ERDS2TJ221	C 220 OHM J 1/4W	R5508	EROS2CKF2200	M 220 OHM F 1/4W
R5415	ERDS2TJ222	C 2.2K OHM J 1/4W	R5509	EROS2CKF2200	M 220 OHM F 1/4W
R5416	ERDS2TJ103	C 10K OHM J 1/4W	R5513	ERDS2TJ101	C 100 OHM J 1/4W
R5417	ERDS2TJ272	C 2.7K OHM J 1/4W	R5514	ERDS2TJ101	C 100 OHM J 1/4W
R5418	ERDS2TJ392	C 3.9K OHM J 1/4W	R5523	ERDS1TJ222	C 2.2K OHM J 1/2W
R5419	ERDS2TJ392	C 3.9K OHM J 1/4W	R5532	ERDS2TJ221	C 220 OHM J 1/4W
R5420	ERDS2TJ821	C 820 OHM J 1/4W	R5533	ERDS2TJ103	C 10K OHM J 1/4W
R5421	ERDS2TJ102	C 1K OHM J 1/4W	R5534	ERDS2TJ222	C 2.2K OHM J 1/4W
R5422	ERDS2TJ102	C 1K OHM J 1/4W	R5535	ERDS2TJ333	C 33K OHM J 1/4W
R5423	ERD25FJ821K	C 820 OHM J 1/4W	R5536	ERDS2TJ222	C 2.2K OHM J 1/4W
R5424	ERDS2TJ823	C 82K OHM J 1/4W	R5537	ERDS2TJ332	C 3.3K OHM J 1/4W
R5425	ERDS2TJ471	C 470 OHM J 1/4W	R5538	ERDS2TJ222	C 2.2K OHM J 1/4W
R5426	ERDS2TJ823	C 82K OHM J 1/4W	R5539	ERDS2TJ333	C 33K OHM J 1/4W
R5427	ERDS2TJ101	C 100 OHM J 1/4W			

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
R5540	ERDS2TJ222	C 2.2K OHM J 1/4W	R5638	EVMQHGA01B24	CONTROL B 20K OHM
R5541	ERDS2TJ101	C 100 OHM J 1/4W	R5639	EVMQHGA01B34	CONTROL B 30K OHM
R5542	EVM4HGA00B23	CONTROL B 2K OHM	R5640	ERDS2TJ683	C 68K OHM J 1/4W
R5543	ERD25FJ564K	C 560K OHM J 1/4W	R5641	ERDS2TJ473	C 47K OHM J 1/4W
R5544	EVM4HGA00B23	CONTROL B 2K OHM	R5650	ERD25FJ750K	C 75 OHM J 1/4W
R5545	ERDS2TJ102	C 1K OHM J 1/4W	R5651	EROS2CKF75RO	M 75 OHM F 1/4W
R5546	EVM4HGA00B23	CONTROL B 2K OHM	R5652	EROS2CKF75RO	M 75 OHM F 1/4W
R5547	EROS2CKF2402	M 24K OHM F 1/4W	R5653	EROS2CKF75RO	M 75 OHM F 1/4W
R5548	EROS2CKF2402	M 24K OHM F 1/4W	R5655	ERDS2TJ331	C 330 OHM J 1/4W
R5549	EROS2CKF2402	M 24K OHM F 1/4W	R5656	ERDS2TJ331	C 330 OHM J 1/4W
R5550	ERDS2TJ273	C 27K OHM J 1/4W	R5657	ERDS2TJ331	C 330 OHM J 1/4W
R5571	ERDS1TJ101	C 100 OHM J 1/2W	R5659	ERDS2TJ563	C 56K OHM J 1/4W
R5572	ERDS2TJ101	C 100 OHM J 1/4W	R5660	ERDS2TJ563	C 56K OHM J 1/4W
R5574	ERDS2TJ101	C 100 OHM J 1/4W	R5661	ERDS2TJ563	C 56K OHM J 1/4W
R5576	ERDS2TJ101	C 100 OHM J 1/4W	R5663	ERDS2TJ563	C 56K OHM J 1/4W
R5577	EVM4HGA00B14	CONTROL B 10K OHM	R5664	ERDS2TJ563	C 56K OHM J 1/4W
R5578	ERD25FJ472K	C 4.7K OHM J 1/4W	R5665	ERDS2TJ563	C 56K OHM J 1/4W
R5579	EVM4HGA00B14	CONTROL B 10K OHM	R5667	ERDS2TJ821	C 820 OHM J 1/4W
R5580	EROS2CKF2052	M 20.5K OHM F 1/4W	R5668	ERDS2TJ821	C 820 OHM J 1/4W
R5581	EROS2CKF2052	M 20.5K OHM F 1/4W	R5669	ERDS2TJ821	C 820 OHM J 1/4W
R5582	EROS2CKF2052	M 20.5K OHM F 1/4W	R5672	ERDS2TJ103	C 10K OHM J 1/4W
R5583	EROS2CKF2200	M 220 OHM F 1/4W	R5673	ERDS2TJ563	C 56K OHM J 1/4W
R5584	EROS2CKF2200	M 220 OHM F 1/4W	R5674	ERDS2TJ563	C 56K OHM J 1/4W
R5585	EROS2CKF2200	M 220 OHM F 1/4W	R5675	ERDS2TJ563	C 56K OHM J 1/4W
R5586	EROS2CKF2200	M 220 OHM F 1/4W	R5676	ERDS2TJ563	C 56K OHM J 1/4W
R5587	EROS2CKF2200	M 220 OHM F 1/4W	R5677	ERDS2TJ103	C 10K OHM J 1/4W
R5588	EROS2CKF2200	M 220 OHM F 1/4W	R5678	ERDS2TJ103	C 10K OHM J 1/4W
R5589	EROS2CKF1001	M 1K OHM F 1/4W	R5679	ERDS2TJ103	C 10K OHM J 1/4W
R5590	EROS2CKF1001	M 1K OHM F 1/4W	R5705	ERDS2TJ222	C 2.2K OHM J 1/4W
R5591	EROS2CKF1001	M 1K OHM F 1/4W	R5706	ERDS2TJ561	C 560 OHM J 1/4W
R5592	ERDS2TJ101	C 100 OHM J 1/4W	R5708	ERD25FJ100K	C 10 OHM J 1/4W
R5593	ERDS2TJ181	C 180 OHM J 1/4W	R5709	ERDS2TJ102	C 1K OHM J 1/4W
R5594	ERDS2TJ101	C 100 OHM J 1/4W	R5710	ERDS2TJ223	C 22K OHM J 1/4W
R5596	ERDS2TJ331	C 330 OHM J 1/4W	R5711	ERDS2TJ223	C 22K OHM J 1/4W
R5598	ERDS2TJ272	C 2.7K OHM J 1/4W	R5712	ERDS2TJ223	C 22K OHM J 1/4W
R5599	ERDS2TJ681	C 680 OHM J 1/4W	R5713	ERDS2TJ223	C 22K OHM J 1/4W
R5601	ERDS2TJ331	C 330 OHM J 1/4W	R5714	ERDS2TJ472	C 4.7K OHM J 1/4W
R5602	ERDS2TJ331	C 330 OHM J 1/4W	R5715	ERDS2TJ472	C 4.7K OHM J 1/4W
R5603	ERD25FJ332K	C 3.3K OHM J 1/4W	R5716	ERDS2TJ223	C 22K OHM J 1/4W
R5604	EROS2CKF75RO	M 75 OHM F 1/4W	R5717	ERDS2TJ223	C 22K OHM J 1/4W
R5605	EROS2CKF75RO	M 75 OHM F 1/4W	R5718	ERDS2TJ223	C 22K OHM J 1/4W
R5606	EROS2CKF75RO	M 75 OHM F 1/2W	R5719	ERDS2TJ223	C 22K OHM J 1/4W
R5607	EROS2CKF5602	M 56K OHM F 1/4W	R5720	ERDS2TJ682	C 6.8K OHM J 1/4W
R5608	EROS2CKF5602	M 56K OHM F 1/4W	R5721	ERD25FJ103K	C 10K OHM J 1/4W
R5609	ERDS2TJ563	C 56K OHM J 1/4W	R5722	ERD25FJ331K	C 330 OHM J 1/4W
R5610	EROS2CKF5602	M 56K OHM F 1/4W	R5801	ERD25FJ103K	C 10K OHM J 1/4W
R5611	EROS2CKF5602	M 56K OHM F 1/4W	R5802	EVMQ1GA01B15	CONTROL B 100K OHM
R5612	ERDS2TJ563	C 56K OHM J 1/4W	R5803	ERDS2TJ102	C 1K OHM J 1/4W
R5613	ERDS2TJ103	C 10K OHM J 1/4W	R5804	TAV12K11215	CONTROL 2.1M OHM
R5614	ERDS2TJ103	C 10K OHM J 1/4W	R5805	ERDS2TJ102	C 1K OHM J 1/4W
R5615	ERDS2TJ821	C 820 OHM J 1/4W	R5811	ERD25FJ563K	C 56K OHM J 1/4W
R5623	EVMQHGA01B24	CONTROL B 20K OHM	R5812	EVMQ1GA01B14	CONTROL B 10K OHM
R5626	ERDS1FJ471	C 470 OHM J 1/2W	R5813	ERD25FJ563K	C 56K OHM J 1/4W
R5627	EVMQHGA01B13	CONTROL B 1K OHM	R5814	ERDS2TJ472	C 4.7K OHM J 1/4W
R5628	ERDS1TJ821	C 820 OHM J 1/2W	R5814	TAV12K11214	CONTROL 210K OHM
R5631	EVM4HGA00B23	CONTROL B 2K OHM	R5815	ERDS2TJ123	C 12K OHM J 1/4W
R5632	ERDS2TJ822	C 8.2K OHM J 1/4W	R5816	ERDS2TJ102	C 1K OHM J 1/4W
R5633	EVMQHGA01B14	CONTROL B 10K OHM	R5817	EVMQ1GA01B53	CONTROL B 5K OHM
R5634	ERDS2TJ472	C 4.7K OHM J 1/4W	R5818	ERDS2TJ392	C 3.9K OHM J 1/4W
R5635	ERD25FJ271K	C 270 OHM J 1/4W	R5819	TAV12K11253	CONTROL 25K OHM
R5636	EVMQHGA01B54	CONTROL B 50K OHM			
R5637	EVMQHGA01B34	CONTROL B 30K OHM			

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
R5820	ERDS2TJ392	C 3.9K OHM J 1/4W	R5993	ERDS2TJ183	C 18K OHM J 1/4W
R5822	EVMQ1GA01B23	CONTROL B 2K OHM	R5994	ERDS2TJ223	C 22K OHM J 1/4W
R5823	ERD25FJ392K	C 3.9K OHM J 1/4W	R5995	ERDS2TJ223	C 22K OHM J 1/4W
R5824	TAV12K11223	CONTROL 22K OHM	R5996	ERD25FJ471K	C 470 OHM J 1/4W
R5825	ERDS2TJ392	C 3.9K OHM J 1/4W	R5998	ERDS2TJ221	C 220 OHM J 1/4W
R5827	EVMQ1GA01B13	CONTROL B 1K OHM	R5999	ERDS2TJ472	C 4.7K OHM J 1/4W
R5828	ERD25FJ181K	C 180 OHM J 1/4W	OTHERS		
R5829	EVMQ1GA01B53	CONTROL B 5K OHM	K106	TES4539	SPRING(TR)
R5832	ERD25FJ181K	C 180 OHM J 1/4W	K107	TES6162	SPRING
R5833	EVMQ1GA01B53	CONTROL B 5K OHM	K108	TES6583	SPRING(IC) SMALL
R5835	EVMQ1GA01B13	CONTROL B 1K OHM	K110	TJS118150	8P SOCKET(VTR)
R5836	ERD25FJ181K	C 180 OHM J 1/4W	K109	TJS118941	BNC CONNECTOR(W/SWITCH)
R5837	EVMQ1GA01B53	CONTROL B 5K OHM	K111	TJS35030	CRT SOCKET
R5838	ERDS1FJ471	C 470 OHM J 1/2W	K112	TKK870503	VOLUME HOLDER
R5839	ERDS1FJ471	C 470 OHM J 1/2W	K113	TKK878503-5	POWER IN TERMINAL BOARD
R5840	ERDS2TJ332	C 3.3K OHM J 1/4W	K114	TMK87513-2	CONTROL P.W.B. BARRIER
R5841	ERDS2TJ331	C 330 OHM J 1/4W	K115	TMM15202	CRT SOCKET COVER
R5842	ERDS2TJ223	C 22K OHM J 1/4W	K118	TMM6428-1	CLAMPER
R5843	ERDS2TJ332	C 3.3K OHM J 1/4W	K119	TMM76403-1	CLAMPER
R5844	ERDS1FJ221	C 220 OHM J 1/2W	Y44	TMM81488	CLAMPER
R5845	ERDS2TJ123	C 12K OHM J 1/4W	K120	TMX6424	L. CLAMPER
R5846	ERDS1FJ561	C 560 OHM J 1/2W	K121	TUW87502	TERMINAL BRACKET
R5847	ERG1SJ221	M 220 OHM J 1W	Y22	TUX80971	CORD BRACKET
R5848	ERDS2TJ103	C 10K OHM J 1/4W	Y52	TUX87109	CHASSIS BRACKET
R5849	ERD25FJ103K	C 10K OHM J 1/4W	K122	TUX87403	P.W. BOARD BRACKET
R5852	ERD25FJ152K	C 1.5K OHM J 1/4W	K123	TUX87417	VOLUME BRACKET
R5853	ERD25FJ152K	C 1.5K OHM J 1/4W	K124	TUX87418	P.W. BOARD BRACKET (C)
R5854	ERD25FJ152K	C 1.5K OHM J 1/4W	K125	TUX87419-1	SWITCH BRACKET
R5857	ERDS2TJ221	C 220 OHM J 1/4W	Y45	TXAJTT2P343	2P CONNECTOR ASSY(A)
R5858	ERD25FJ331K	C 330 OHM J 1/4W	Y46	TXAJTT3P1165	3P CONNECTOR ASSY(A31)
R5859	ERDS2TJ682	C 6.8K OHM J 1/4W	Y47	TXAJTT3P1415	3P CONNECTOR ASSY
R5860	ERTD3ZHL402S	THERMISTOR	Y48	TXAJTV2P477	2P CONNECTOR ASSY
R5861	ERD25FJ101K	C 100 OHM J 1/4W	Y49	TXAJTV2P554	2P CONNECTOR ASSY(B20)
R5864	EVM4HGAA00B33	CONTROL B 3K OHM	Y50	TXAJTV3P1168	3P CONNECTOR ASSY(Q2)
R5865	ERDS2TJ332	C 3.3K OHM J 1/4W	Y51	TXAJTV3P1459	3P CONNECTOR ASSY(W7)
R5940	ERDS2TJ471	C 470 OHM J 1/4W	K126	XNG3BS	NUT
R5950	ERDS2TJ472	C 4.7K OHM J 1/4W	K127	XSN3+10S	SCREW
R5951	ERDS2TJ472	C 4.7K OHM J 1/4W	K129	XTN26+10B	SCREW
R5952	ERDS2TJ392	C 3.9K OHM J 1/4W	K130	XTV3+10A	SCREW
R5953	ERDS2TJ102	C 1K OHM J 1/4W	K59	XTV3+8A	SCREW
R5954	ERDS2TJ472	C 4.7K OHM J 1/4W	K131	XTWT983G	SCREW
R5955	ERDS2TJ393	C 39K OHM J 1/4W	K132	XWG3	WASHER
R5956	ERDS2TJ473	C 47K OHM J 1/4W	K134	XYN3+F12	SCREW
R5957	ERDS2TJ472	C 4.7K OHM J 1/4W	A1	TJS118590	2P CONNECTOR
R5958	ERDS2TJ822	C 8.2K OHM J 1/4W	A2	TJS118620	5P CONNECTOR
R5961	ERDS2TJ122	C 1.2K OHM J 1/4W	A3	TJS118590	2P CONNECTOR
R5977	ERDS2TJ223	C 22K OHM J 1/4W	A4	TJS118620	5P CONNECTOR
R5978	ERDS2TJ273	C 27K OHM J 1/4W	A5	TJS118600	3P CONNECTOR
R5979	ERDS2TJ563	C 56K OHM J 1/4W	A6	TJS118600	3P CONNECTOR
R5980	ERDS2TJ103	C 10K OHM J 1/4W	A7	TJS118600	3P CONNECTOR
R5981	ERDS2TJ472	C 4.7K OHM J 1/4W	A17	TJS118590	2P CONNECTOR
R5982	ERD25FJ102K	C 1K OHM J 1/4W	A18	TJS118590	2P CONNECTOR
R5983	ERDS2TJ223	C 22K OHM J 1/4W	A33	TJS118600	3P CONNECTOR
R5984	ERDS2TJ223	C 22K OHM J 1/4W	A34	TJS118590	2P CONNECTOR
R5985	ERDS2TJ223	C 22K OHM J 1/4W	A35	TXAJTT1P159	1P CONNECTOR ASSY(D1)
R5986	ERDS2TJ223	C 22K OHM J 1/4W	A36	TEL302-9	TERMINAL
R5987	ERD25FJ223K	C 22K OHM J 1/4W	A37	TXAJTE2P557	2P CONNECTOR ASSY(N2)
R5988	ERDS2TJ103	C 10K OHM J 1/4W	A10-1	TEL302-9	TERMINAL
R5989	ERDS2TJ473	C 47K OHM J 1/4W	A10-2	TEL302-9	TERMINAL
R5990	ERDS2TJ103	C 10K OHM J 1/4W	A10-3	TEL302-9	TERMINAL
R5991	EVM4HGAA00B54	CONTROL B 50K OHM	A15-1	TEL302-9	TERMINAL
R5992	ERDS2TJ393	C 39K OHM J 1/4W			

Ref.No.	Part No.	Description	Ref.No.	Part No.	Description
A15-2	TEL302-9	TERMINAL	L5	TXAUTV3P1229	3P CONNECTOR ASSY(A36)
A15-3	TEL302-9	TERMINAL	L7	TEL302-9	TERMINAL
A15-4	TEL302-9	TERMINAL	L11	TXAUTT1P195	1P CONNECTOR ASSY(B2)
A31-1	TEL302-9	TERMINAL	L12	TXAUTV3P1347	3P CONNECTOR ASSY(B40)
A31-2	TEL302-9	TERMINAL	M1	TJS118650	8P CONNECTOR
B1	TJS118630	6P CONNECTOR	M2	TJS118640	7P CONNECTOR
B2	TEL302-9	TERMINAL	Q1	TJS118610	4P CONNECTOR
B5	TJS118620	5P CONNECTOR	Q2	TJS118600	3P CONNECTOR
B6	TJS118590	2P CONNECTOR	R1	TXAUTV8P109A	8P CONNECTOR ASSY(G4)
B7	TJS118620	5P CONNECTOR	R2	TXAUTV6P467	6P CONNECTOR ASSY(W4)
B8	TJS118630	6P CONNECTOR	R556-1	TEL312	TERMINAL
B9	TJS118620	5P CONNECTOR	R556-2	TEL312	TERMINAL
B10	TJS118620	5P CONNECTOR	R580L	TEL312	TERMINAL
B11	TJS118670	10P CONNECTOR	R580R	TEL312	TERMINAL
B13	TXAUTV6P497	6P CONNECTOR ASSY(A2)	R581L	TEL312	TERMINAL
B14	TJS118650	8P CONNECTOR	R581R	TEL312	TERMINAL
B15	TJS118600	3P CONNECTOR	R584L	TEL312	TERMINAL
B16	TJS118610	4P CONNECTOR	R584R	TEL312	TERMINAL
B17	TXAUTV2P553	2P CONNECTOR ASSY(A7)	R800L	TEL312	TERMINAL
B18	TXAUTV4P697	4P CONNECTOR ASSY(A1)	R800R	TEL312	TERMINAL
B19	TJS118600	3P CONNECTOR	RB10	TXAUTV6P462	6P CONNECTOR ASSY(B10)
B20	TJS118590	2P CONNECTOR	RB14	TXAUTV8P103	8P CONNECTOR ASSY
B22	TJS118590	2P CONNECTOR	RN1	TXAUTV8P105	8P CONNECTOR ASSY(W1)
B37	TJS118600	3P CONNECTOR	RN2	TXAUTV8P104	8P CONNECTOR ASSY
B38	TJS118600	3P CONNECTOR	W1	TJS118650	8P CONNECTOR
B39	TJS118600	3P CONNECTOR	W2	TXAUTV6P401	6P CONNECTOR ASSY(B1)
B40	TJS118600	3P CONNECTOR	W3	TJS118630	6P CONNECTOR
B42	TJS118590	2P CONNECTOR	W4	TJS118600	3P CONNECTOR
B43	TJS118590	2P CONNECTOR	W5	TXAUTV2P559	2P CONNECTOR ASSY(A18)
B50	TXAUTE2P520A	2P CONNECTOR ASSY(N2)	W6	TXAUTV2P558	2P CONNECTOR ASSY(A34)
B31-1	TEL302-9	TERMINAL	W7	TJS118600	3P CONNECTOR
B31-2	TEL302-9	TERMINAL	W9	TXAUTV3P1167	3P CONNECTOR ASSY(B19)
B31-3	TEL302-9	TERMINAL	W10	TXAUTV3P1460	3P CONNECTOR ASSY(A3)
B32-1	TEL302-9	TERMINAL	W11	TJS118590	2P CONNECTOR
B32-2	TEL302-9	TERMINAL	JX5201	TJS8A9040	4P CONNECTOR
B32-3	TEL302-9	TERMINAL	JX5202	TJS8A9040	4P CONNECTOR
B33-1	TEL302-9	TERMINAL	S401	EVQR1AL13	SWITCH
B33-2	TEL302-9	TERMINAL	SW5201	TSE80374-1	SWITCH
B33-3	TEL302-9	TERMINAL	SW5601	TSE80391	SWITCH
C1	TXAUTV10P042	10P CONNECTOR ASSY(B11)	SW5602	TSE80391	SWITCH
C2	TXAUTV2P555	2P CONNECTOR ASSY(B42)	SW5801	TSE80471	SWITCH
C3	TXAUTV3P1458	3P CONNECTOR ASSY(A33)	SW5806	TSE80478	SWITCH
C4	TXAUTV5P395	5P CONNECTOR ASSY(B7)	SW5807	TSE80732	SWITCH
C5	TXAUTV2P556	2P CONNECTOR ASSY(W11)	SW5808	TSE80732	SWITCH
C6	TXAUTV4P698	4P CONNECTOR ASSY	SW5809	TSE80479	SWITCH
C7	TXAUTV5P394	5P CONNECTOR ASSY(B5)	SW5810	TSE80734	SWITCH
C8	TXAUTV6P498	6P CONNECTOR ASSY(W3)	SW5814	TSE80732	SWITCH
C9	TXAUTV3P1345	3P CONNECTOR ASSY(M1)	SW5815	TSE80733	SWITCH
CN1	TXAUTV7P057	7P CONNECTOR ASSY	X601	TSS116M1	CRYSTAL OSCILLATOR
CN2	TXAUTV9P072	9P CONNECTOR ASSY			
CN3	TXAUTV8P128	8P CONNECTOR ASSY			
CN4	TXAUTV3P1217	3P CONNECTOR ASSY			
D1	TEL302-9	TERMINAL			
D7	TXAUTV8P062	8P CONNECTOR ASSY(M1)			
D8	TXAUTV7P046	7P CONNECTOR ASSY(M2)			
DEG-1	TEL302-9	TERMINAL			
DEG-2	TEL302-9	TERMINAL			
G4	TJS1A8140	8P CONNECTOR			
L1	TXAUTV3P1346	3P CONNECTOR ASSY(B38)			
L2	TXAUTV3P1212	3P CONNECTOR ASSY(B37)			
L3	TXAUTV3P1213	3P CONNECTOR ASSY(B39)			
L4	TXAUTV3P1160	3P CONNECTOR ASSY(A6)			